Marine Life Protection Act Initiative

Public Comments Submitted

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Cc: MLPAComments
Subject: Economic Decline of North Coast Fisheries: Overview and Strategies for the Future

BRTF members:

Virginia Strom-Martin has shared the attached report that was prepared when she was in the California State Assembly. Although eleven years has passed, you will see the same issues are very much still with us.

Ken Wiseman

ECONOMIC DECLINE OF NORTH COAST FISHERIES:

Overview and Strategies for the Future

Select Committee on Rural Economic Development
Assemblymember Virginia Strom-Martin, Chair
Carol M. Gaubatz, Consultant

Assembly
California Legislature

SELECT COMMITTEE ON RURAL ECONOMIC DEVELOPMENT

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December 18, 1998

The Honorable Antonio Villaraigosa
Speaker of the Assembly
State Capitol
Sacramento, California

Dear Mr. Speaker:

I respectfully submit the Assembly Select Committee on Rural Economic Development's report, entitled "Economic Decline of North Coast Fisheries: Overview and Strategies for the Future." The report describes the Committee's Fall, 1998 hearing to examine the economic impacts of the North Coast's declining fishing industry and offers findings and recommendations to help reverse that decline.

Fishing is one of California's oldest industries, and has consistently provided a vital component of our food supply, as well as being an important link in the state's economy. For many North Coast communities, fishing has been the mainstay of economic health. As the industry has failed, the impacts from the loss of both jobs and an important commodity have reverberated out into the broader population, causing unemployment, business closures, and related social problems.

The future health of the industry and of our fishing communities depend upon sound policies that will help restore sustainable fisheries. The Select Committee on Rural Economic Development offers this information to the Legislature to heighten understanding about the issue and to encourage support for broad policy changes that will halt fisheries decline and move the industry back toward sustainable prosperity.

Please feel free to contact Carol Gaubatz, Committee Consultant, at (916) 319-3737), for more information or for additional copies of this report.

Sincerely,

Virginia Strom-Martin

Virginia Strom-Martin, Chair
Select Committee on Rural Economic Development

cc: Members of the Legislature

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EXECUTIVE SUMMARY

The Select Committee on Rural Economic Development is an advisory body of the California Assembly. The Committee's mission is to gather information on rural economies, with particular focus on the State laws, policies and regulations that adversely impact rural areas. Based on that information, the Committee's role is to recommend changes to those laws, policies or regulations that will help rural communities in their economic development efforts.

The Select Committee on Rural Economic Development conducted an informational hearing on the economic decline of the North Coast fishing industry on October 2, 1998. Held at the Bodega Bay Marine Laboratory lecture hall in Bodega Bay, California, the hearing featured representatives from many areas of the fishing industry, fisheries researchers, economists, and community development experts. The purpose of the hearing was to learn how current management strategies, regulations, and market forces affect the fisherman's ability to earn a living. Testimony was offered in a series of five panels, with a question and answer period at the end of each panel. The testimony addressed the following subject areas:

- The community impacts of industry decline;
- Current research to improve fisheries;
- Regulatory and management impacts on the resource;
- Alternative marketing strategies to help improve returns; and
- Opportunities in fisheries-related occupations.

Testimony presented at the hearing focused on the need for a more comprehensive and long-term strategy to recover northern California's fisheries. The speakers called for alternative regulatory schemes to reduce fishing effort while allowing participants to continue fishing, and long-term recovery strategies that regulate land use impacts on fishing habitat at the same level as fishing industry impacts. The testimony highlighted the dire condition of most fisheries and called for more funding for habitat restoration and research, and for enhanced economic opportunities for fisherfolk through improved markets, research opportunities, and improved access to harbors.

Based on the participants' recommendations, the Committee made the following findings:

- Restoration of northern California fisheries requires a comprehensive approach to watershed management that includes regulation of timber and agricultural uses, removal of dams, non-point source pollution controls, along with regulation of the fishing industry.
- Land use impacts, such as timber harvesting, agriculture, and hydroelectric power, are not adequately regulated to protect spawning habitat.

- Fisherfolk earn significantly less for their effort today than in past years, prompting over-capitalization and competition commonly referred to as the "race for fish."

- Habitat restoration efforts and research to improve fisheries need additional financial support.

- Competition from foreign farmed fish and Asian imports hurts California fisheries' market access.

Each of these findings is supported by specific recommendations, which may be found at the end of this report.

The fishing industry is one of California's oldest industries, and has consistently provided a vital component of our food supply, as well as being an important link in the state's economy. For many communities, fishing has been the mainstay of economic health. As the industry has failed, these communities have been hit hard, as the loss of both employment and an important commodity reverberate out into the broader community. The industry's decline can be attributed to a number of factors, including habitat degradation, overfishing, and regulatory restrictions. Government intervention into fisheries has been gradual and often too late, as fish populations continue to plummet and recovery efforts yield little success.

The legacy and future health of the fishing industry depend upon sound policies that will help restore sustainable fisheries. The Legislature holds the power to tackle many of the difficult issues raised by this report, but the gravity of the situation must be made clear. The Select Committee on Rural Economic Development offers this information to the Legislature to heighten understanding about the issue and to encourage support for broad policy changes that will halt fisheries decline and move the industry back toward sustainable prosperity.

INTRODUCTION

The North Coast of California has a long history of dependence on natural resources. Timber and fishing supported the area for over 100 years after white settlers arrived, and both industries provided a strong economic base. The bountiful harvests of lumber and fish gave residents the false impression that these resources were inexhaustible, however, and by the time the truth was known, the industries were in decline.

This report focuses specifically on the decline of the North Coast's fishing industry. Regulations and management strategies have failed to limit the impacts on fisheries from land use practices, water storage, and over-capitalization of fishing fleets. As the numbers of a particular species of fish have dwindled, fishermen have moved on to harvest another. Regulations limiting access to a fishery have had the same effect. Gradually, more and more species have been placed at risk as pressure mounts from commercial fishermen struggling to make a living.

Land use practices are also to blame for the loss of anadromous species, such as salmon, steelhead, and trout, all of which are in critical decline. Logging, erosion, and water diversion threaten these species which begin and end their life cycles in California's mountain rivers and streams. Dams built on California rivers for storage and electrical power generation have caused insurmountable damage, both by preventing the return of fish to their native spawning grounds, as well as by releasing rushing waters that scour away any remaining downstream spawning grounds. Last year's placement of coho salmon on the federal list of threatened species was soon followed by proposals to list California's spring and fall run Chinook salmon (*Oncorhynchus kisutch*), the Little Kern golden trout (*Oncorhynchus mykiss whitei*), and the Central Valley steelhead (*Oncorhynchus mykiss*).[1]

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The hearing was opened by Assemblymember Virginia Strom-Martin, chair of the Select Committee on Rural Economic Development. Noting the importance of the fishing industry to the region's economic vitality, Assemblymember Strom-Martin stressed her interest in helping the fishing community return to a stable and viable way of life. She acknowledged that the industry's future was tied to land and water policies, and stated her commitment to make informed, forward-thinking policy decisions that would help the industry recover.

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[1] California Department of Fish and Game, State and Federally Listed Threatened and Endangered Species, July, 1998

Due to the distance Del Norte County fishermen would have had to travel to attend the Bodega Bay hearing, Assemblymember Strom-Martin held a follow-up meeting in Crescent City on October 13, 1998. Attended by approximately 30 Del Norte fisherfolk, the meeting gave members of the local fishing community an opportunity to express their concerns regarding fisheries issues and to learn about the suggestions raised at the earlier gathering.

Comments submitted in writing after both meetings are found in the appendix of this report.

Pietro Parravano
President, Pacific Coast Federation of Fishermen's Associations
"Protecting our fishing heritage"

Mr. Parravano described the importance of the fishing industry throughout the history of North America and early California and its eventual decline. Reduced fish stocks, dams and water diversion, market losses and regulatory restrictions all contribute to the industry's failure. The ensuing business loss has resulted in high unemployment throughout fishing communities across the nation. Parravano said the problem is global in scope, however, as pollution, over-fishing, and habitat loss are depleting fisheries worldwide.

Parravano said planners and social scientists have a misdirected view of fishing communities' plight, viewing the fishing industry as obsolete. Instead, he said a new view of the industry is needed. Fishermen are not interested in retraining, but rather, want to remain active in an industry that could be passed down to their sons and daughters. Aquaculture and mariculture have been suggested as replacements for the commercial fishing jobs lost on the East Coast, but the number of jobs in aquaculture does not compare to the numbers lost. He said the aquaculture industry has its own set of problems, including pollution, habitat destruction, escape of farmed species, and questionable food conversion ratios.

He said the salvation of sustainable fishing communities lies in restoration of healthy fish stocks, access to the resource, and improving access to markets. Research is essential in order to make informed, effective management decisions. Inadequate understanding has left standing questions about the decline of certain fisheries, such as the sardine fishery's collapse in the 1940s. State funding was recently approved to study California's squid fishery, but on the federal level, a similar effort was lacking to study the status of groundfish populations. Parravano cited the Bodega Bay Marine Laboratory's genetic research into salmon, but said the effort has been hard pressed to gain support from either the California Department of Fish and Game (DFG) or from the National Marine Fisheries Service.

He explained that fishermen support research through landing taxes and permit fees, but additional funding is needed. The 1998 State budget allocated funds for the comprehensive fisheries research and management program implemented in AB 1241, which is a start. He praised Assemblymember Strom-Martin's 1997 effort to establish a uniform tax on all fish sold in the State to support DFG, and expressed hopes that the measure could be successfully re-introduced in the future.

Parravano recommended that fishermen and their boats be utilized in carrying out research efforts, noting the wealth of experience, knowledge and equipment they offer. He recommended that boats should be compensated for carrying observers, and that unemployed abalone and urchin divers are a ready resource for researching underwater habitats.

Habitat restoration is essential for healthy fisheries, and Parravano urged that unemployed fishermen be given preference for restoration jobs. He said more funding must be directed

toward restoration efforts, and he suggested a portion of the economic impact funding Humboldt County would receive through the purchase of the Headwaters Forest should be used for this purpose. Logging regulations should reflect restoration concerns by regulating road building in sensitive watersheds. Dam removal would contribute enormously to habitat improvement and should be supported by the Legislature, as should the removal of natural barriers.

Parravano cited the importance of regulations in managing for healthy fisheries, but added that the non-fishing industries that impact fish stocks must also share the burden. The effects of logging, agriculture, and other non-point source polluters are high, yet regulators will not take the steps necessary to address these impacts. He called for strong enforcement of the Clean Water Act and Endangered Species Act to support the Magnuson-Stevens Fishery Conservation and Management Act, as well as for state-level regulation of human impacts on fisheries.

In addition, Parravano called for funding to dredge small harbors in order to maintain their accessibility by fishing vessels. Marine mammals, which steal salmon off of hooks, hamper gillnet and purse seine fishing, and prey on migrating salmon also impair fishermen's access. He said fishermen have worked closely with conservationists to improve fishing practices and now hope some compromise can be reached on marine mammal controls.

Parravano also called for careful designation of future marine protected areas in order to guarantee the reserves will contribute to conservation and management, and not merely serve as recreational areas for affluent communities. He said salmon fishermen would benefit from a new allocation formula that would allow for greater sharing of salmon stocks between tribal communities and commercial fishermen.

In order to improve conditions for fishermen, market access must be improved. Parravano said this could be accomplished by giving preference to U.S. fishermen, by limiting foreign imports to those nations with comparable conservation measures in place, by greater support for the California Salmon Council and the California Seafood Council, and by facilitating direct marketing efforts wherever possible.

Mike McKenzie-Bahr
Del Norte County Economic Development
"How communities are impacted"

Mr. McKenzie-Bahr described the devastating impacts the loss of fishing jobs has had on Del Norte County. The county's population is 28,000, with the Pelican Bay State Prison population comprising 4,000 of that total. Fishing and fish processing are the largest industries, employing 350 people. Due to the El Niño storms, Crescent City Harbor's 1998 catch was 75 percent below normal. The severe decline caused fish processors to close, and ancillary businesses and tourism also suffered.

Employment alternatives are limited in Del Norte County and former fishermen's income levels have dropped to less than a quarter of what they once were. He said many fishermen have taken jobs as fishing guides, but the anticipated endangered species listing of additional salmon stocks could soon limit those opportunities as well. Others have taken jobs at the state prison. Job opportunities for laid-off fish processing plant workers include low-paying positions at national chain stores, such as Wal-Mart, Kmart, and fast food restaurants. Tourism has declined along with the fishing industry, since much of the area's tourism is connected to salmon fishing.

McKenzie-Bahr said Del Norte County's Welfare to Work mandate calls for 800 people to be placed in jobs, expanding the number currently employed in the county by 15 percent. He said the depressed economy contributes to the county's high rates of domestic violence, alcoholism and drug abuse. The county's local economic development plan includes a grant for a new seafood processing plant that is scheduled for opening in 1999. He said a stable fishing industry is needed for that project to succeed.

He recommended the following actions to help improve conditions for fishermen:

- Implement stable regulations and quotas for both commercial and recreational seasons that will allow fishing communities to plan ahead;

- Base regulations and management schemes on long-range planning that addresses economic and market factors, so fishermen can remain active in a stable fishery;

- Supplement commercial fishermen's incomes through subsidies while recovery work is underway and employ them in habitat restoration and research efforts;

- The state and federal government must make a long-term commitment to support commercial fishing;

and for Del Norte County:

- The Department of Corrections should purchase locally or offer local retailers the chance to bid on contract purchases; and

- Redwood National and State Parks should adopt a master plan that makes tourism a priority.

Mark Wheetley
California Coastal Conservancy
"How communities transition"

Mr. Wheetley described the Coastal Conservancy's work to develop economic opportunities for communities with sagging resource-based economies. The Coastal Conservancy is helping to develop community-based plans in former timber-based communities, and has helped communities develop such projects as farmer's markets, eco-tourism, direct marketing opportunities, and pier reconstruction. The agency also works to restore watersheds and estuaries and to improve public access facilities.

Wheetley said his agency could accomplish more with additional funding, and explained that it is a long-term process with no quick fixes. He added that the University of California Cooperative Extension program provides another important component in helping resource-based communities transition. Among the current project priorities are watershed and estuary protections and public access improvements. He cited the need for landowner incentives to encourage more participation in watershed and habitat restoration activities on private lands.

Commenting that the Coastal Conservancy's work to help former timber communities transition to a new economic base provides a model, Wheetley said the process involved much public participation, with community members working together to plan for economic stability. He said tourism and eco-tourism projects are dependent upon healthy ecosystems. Other factors for project success included effective use and enforcement of regulations, good public relations, maintenance of coastal protection priorities, and coordination of all levels of funding sources.

FINDINGS AND RECOMMENDATIONS

Findings:

- The loss of fishing jobs affects many subsidiary businesses, including fish processors, retail markets, boat and equipment sellers, tourist-related services, and more.
- The loss of fishing jobs has serious socioeconomic impacts in some communities, including high unemployment, spousal abuse and drug abuse.
- Community stability is impacted by the crisis/response approach to the industry, resulting from constantly changing regulations.
- Recovery of fisheries depends on comprehensive watershed planning and landowner commitments to habitat restoration and protection.
- Resource-based economies benefit from community-based plans that help them transition into alternative approaches to resource use.
- The federal Northwest Forest Plan's program to help timber communities develop a new economic base provides a model for fishing communities to follow.

Recommendations:

- The state should provide additional assistance to fisherfolk that are forced out of the industry by regulations.
- The state should develop long-term fisheries management strategies that consider all impacts on the resource as well as the economic and market ramifications of regulations.
- The state should support community-based programs to help communities deal with the socioeconomic impacts of industry decline.
- The state should support comprehensive watershed planning efforts at the local and regional level.
- The state should encourage fisheries habitat restoration and protection through landowner incentives.

Paul Siri
Bodega Bay Marine Lab
"Genetic research and salmon"

Mr. Siri blamed human overpopulation for current scarcities of fish, clean water and other resources. He reported that 50 percent of the North Coast's salmon species are at risk and the remainder were already extinct. He explained that the Bodega Bay Marine Lab began its research in 1989 through an active partnership with the Pacific Coast Federation of Fishermen's Associations (PCFFA). Currently the research involves captive breeding, in an effort to protect native stocks from genetic swapping, which reduces genetic diversity.

Siri said coho salmon are managed as evolutionarily significant units, representing isolated groups coming from different geographic locations. California's strongest remaining coho population is found in Marin County and represents 10 percent of the state's remaining wild salmon stocks.

Siri's research explores whether the Marin stocks will provide seed for replenishing other wild stocks. The laboratory's work also addresses the genetic relationship of the wild stock to the Marin Hatchery Project stock. The work is accomplished through analysis of a small tissue sample, which can reveal a significant diversity among salmon species.

Discussing the impediments to wild salmon migration, Siri said dams cause serious damage to downstream habitat. By retaining sediment and increasing water flows, Siri said dams actually increase downstream erosion and promote the scouring of river bottom spawning habitat.

He explained that the necessary components of sustainability include growth of the resource (fish stocks), restoration of the environment, and equity, which includes social justice factors and development constraints. He reiterated that world population increases are a factor affecting the recovery of fish stocks. He said the peak world fish harvest of 96 metric tons has already been surpassed, yet only 3 percent of the fisheries are in recovery. He added that well over 60 percent of the world's fisheries are fully or over-exploited. Citing expectations that the world population would double in the next 15 to 20 years, Siri noted that the United Nations recently added water shortages and fish scarcity as critical factors to human survival.

Siri added that PCFFA's work to link the fishing industry to research provides the best model for sustainability. He said on its own the industry has provided incentives to rescue winter run salmon and to make predictions on the status of spring run stocks, thus drawing the attention of the public and government.

Dr. Robert Rubin
Santa Rosa Junior College
"Ocean Alternatives"

Dr. Rubin discussed how fish declines are affecting eco-tourism. In Mexico's Sea of Cortez, where sport fishing is an important industry, poor fishery management and overexploitation have led to a decline in billfish stocks. In response, tourism is declining and local businesses are suffering. In the whaling industry, Rubin said 30 to 40 percent of the income is derived from eco-tourism. He said sound research could offer insight for the future of these industries.

Rubin also reported on his research into seal predation on fish, claiming that research revealed that seal predation on fish is less of a problem than it is thought to be. Through a study of Canada's cod fishery, he has found that cod populations fluctuate significantly regardless of the seal populations.

A local study of harbor seals at the mouth of the Russian River analyzed the seal's impact on migratory salmon stocks. After three years work, the study revealed that not all seals eat salmon and those that do are not always successful at catching them. Seal fishing techniques studied included herding fish up against an embankment, where the seals lunge toward the fish. The seals were successful in this approach only one out of 18 times. Analysis of seal feces shows the mammals consumed a substantial amount of lamprey eel and octopus.

Seal fishing in the river mouth was also studied. Rubin said this research revealed that seals have more success catching salmon when water levels were low, allowing them to lie alongside the banks and lunge at their prey. The seals have less success when water levels are increased and the seals are forced to swim to catch fish. Rubin concluded that seal predation could be reduced by 75 percent if higher water levels were maintained.

FINDINGS AND RECOMMENDATIONS

Findings:

- Approximately half of the North Coast's salmon species are extinct and the remainder is at risk.
- Research to determine the impacts of hatchery stock on species diversity can help in the development of stronger fisheries.
- Dams impact fish habitat by retaining sediment and increasing water velocity, which scours away gravel and other downstream habitat features.
- Sustainable fisheries depend upon healthy, growing fish populations, optimal environmental conditions, and balanced conservation concessions from all human activities impacting the resource.
- Marine mammal impact on migrating anadromous fish is reduced when river levels are kept high.
- Collaboration between the fishing industry and scientists presents a good model for research, linking industry concerns and funding to research and policy recommendations.

Recommendations:

- The state must move quickly to protect remaining salmon populations by protecting and restoring fish habitat.
- The state should support research into improving fish stocks.
- The state should initiate a research program to review potential dam removal, starting in waterways with live salmon populations.
- Strategies for achieving sustainable fisheries should include restoring fish populations, restoring healthy fish habitat, and equitable regulation of all human impacts.
- Water levels in river mouths should be kept high during migratory periods in order to reduce marine mammal predation.
- The state should promote private/public partnerships in fisheries research.

Dr. Jim Wilen
U.C. Davis fisheries economist
"Economics of fisheries management"

Dr. Wilen presented a brief history of fisheries management. He explained that prior to World War II few fishing regulations were in place, with the exception of halibut regulations imposed in 1930, West Coast salmon regulations imposed from the 1930s through 1940s, and earlier restrictions on the catch of fur seals. In 1976 U.S. jurisdiction was extended from 12 miles to 200 miles out from the coastline, lending added protection to U.S. fisheries. The open access approach to commercial fishing worked when the ratio of fishing boats to fish was low, but as gear and capacity increased, season restrictions were imposed. With increasing vessel capacity, regulators were forced to restrict fishing capacity as well.

Wilen said the economics of fishing addresses the question of whether of not fishing generates real returns and whether maximum profits are being reached. He said the answer to both questions is "No," but instead said that fishermen are racing against one another to catch the greatest number of fish.

In an effort to ease the pressure, limited entry fishery management schemes were introduced in the 1960s and 1970s. The combination of regulation and restricted access gave certain participants the right to fish while restricting others from entering the fishery. Wilen said this "limited entry" approach didn't end competition within the fishery, and regulators began limiting fishing capacity factors, such as gear and size of boats.

Wilen said research into ending the "race for fish" has resulted in the concept of individual transferable quotas (ITQs), in which participating fisherfolk are allocated a specific portion of the fishery. New Zealand has adopted ITQs widely, with dramatic results, including eliminating competition between fishermen, higher sale prices for fish, and revenues up to three times higher in certain fisheries. He said that by allocating what was essentially "property rights" to the fishery, stewardship was encouraged and consolidation problems were resolved.

Richard Young
Del Norte trawler
"Reducing fleet size/reducing fishing effort"

Mr. Young described the industry's uncertain future, citing depleted fisheries, ineffective marketing, and conservation restrictions that worked against the fisherman's ability to earn a living. He said the long hours, low pay and uncertainty are discouraging young people from entering the industry, which consequently prevents older fishermen from retiring. Competition between fishermen causes problems for everyone, as do too many vessels, too much gear, too much waste, and too little income.

Young said biology alone can not solve the problems. He called for an end to the race for fish, and said that better numbers of participants and controls on the equipment being used could result in better harvests. He said the issuance of too many licenses and the use of boats with too much fishing capacity only adds stress to fisheries, and he suggested placing limits on individual output, in the form of trip limits or ITQs, as a possible solution. But Young said too often management strategies address only one aspect of the problem, which fails to bring a complete and satisfactory resolution.

As an example he described how California's shrimp fishery operates under a moratorium that will expire in 1999. Without renewal, the protections that program established would be lost. Currently DFG issues crab vessel permits that restrict boat size and capacity, but too many licenses have been issued. He also called limited entry programs inadequate, but Young said the larger problem was a management system that fails to reconcile the need of individuals to earn a living with the need to restrict total harvests. He urged a movement toward matching fleet size and harvest capacity to the sustainable yield level of the resource.

Phil Kline
Eureka crab fisherman
"Groundfish buy-backs"

Mr. Kline endorsed the groundfish buy-back program as necessary for sustainable management of the groundfish fishery, but said it left the fishery over-capitalized. He urged that buy-back programs be amended to purchase fishing vessels as well as licenses when a fisherman leaves the fishery. He urged a mandatory reduction in equipment for those remaining in the fishery and limits on opportunities for commercial fishermen to expand their fishing effort.

Kline cited the significant problem of discards, and urged legislative support for state and federal policies to reduce waste in the fishery. He said current limits on certain species are draconian, while fisheries in far worse condition remain open. He proposed instituting "permit stacking," which allows a single vessel to hold multiple permits, as a means of reducing discards by allowing retention of a larger percentage of the fish caught. Kline urged changing the law to allow the use of all species caught, and proposed grouping all groundfish into one category and regulating through a weight limit, regardless of species.

Gear deployment is another area of concern and Kline said that too often fishing capacity exceedsthe allowable catch. He suggested placing limits on fishing gear, on how and when certain types of gear could be used, as well as where it could be used.

He also recommended closing fishing seasons during spawning times for the respective fisheries. He proposed establishing policies to promote the use of equipment designed to avoid killing juveniles and harming the environment. Kline said that economic incentives are the best way to implement such policies, and said the greatest challenge will be obtaining adequate funding to ensure that fisheries management planning can be done right.

Paul Peligrini
Eureka long-liner
"Crab harvest/derby approach"

Mr. Peligrini concurred with Mr. Kline's concerns and said similar problems exist within the crab fishery. The "derby approach," where fishermen are allowed to take as much crab as they can during a short period of time, results in a "race for crabs" which places both vessels and fishermen at risk. He expressed concern for the economic viability of the fishery with its year-to-year regulatory changes. He said increasing competition forces fishermen to increase their effort in order to make a living and he urged that something be done to improve conditions for fishermen.

Peligrini suggested that profits from selling fish that would otherwise be discarded could fund programs to place independent observers throughout the fleet to verify and monitor catch. He noted that such a program could help address the need for better statistics on the numbers of fish taken.

FINDINGS AND RECOMMENDATIONS

Findings:

- Regulation of the fishing industry has increased as fishing capacity has increased.
- Most fishing boats are equipped to catch far beyond allowable limits, resulting in wasteful bycatch and discards.
- Over-capitalization of fisheries results in fishermen racing against each other to catch the most fish.
- Individual transferable quotas (ITQs) that apportion fish between licensed fisherfolk may provide a means to help reduce competition in certain fisheries.
- Apportioning the resource can encourage better stewardship.
- Removing fishing licenses from the fishery when a fisherman or woman retires fails to address the issue of over-capacity, leaving boats and equipment available to newcomers hoping to enter the fishery.
- Too often management strategies address only one aspect of the problems within a fishery, by being limited in scope or by limiting equipment while still allowing too many licenses to be issued.
- "Permit stacking," which allows fishermen to hold more than one license, would enable them to retain more of their catch, resulting in fewer discards and less waste.
- Catch limits are based on "maximum sustainable yield" estimates, yet accurate data on fish populations is not available.

Recommendations:

- A along with its use of permit controls and season limits, the state should limit fleet size and fishing capacity.
- The state should restrict fishing capacity so allowable catch limits are not surpassed.
- State and federal programs to develop fisheries management plans should be fully funded.
- Catch limits should be based on 75% of maximum sustainable yield as a safety valve.
- The state should support alternative strategies and programs to reduce discards.
- Ocean fishing seasons should be closed during spawning times.

- The state should offer economic incentives to encourage the use of equipment that does not harm the environment or kill juvenile fish.

- The state should allow for the sale of all caught fish, with the proceeds from bycatch and discards going to support observers or other fisheries research.

David Goldenberg
California Salmon Council
"Reconnecting to the consumer/direct sales"

Mr. Goldenberg presented the history of the California Salmon Council (CSC), which is supported through taxes on California salmon fisheries, for the purpose of marketing, promoting, and educating the public about California king salmon.

Goldenberg said adverse weather conditions created by the El Niño storms of 1998 resulted in a significantly lower catch than in 1997. Salmon caught during 1998 were also smaller than normal, and the market response was to offer a lower price for the fish. Compounded by Asian imports flooding the market due to the Asian economic crisis, declining exports, and the fact that consumer consumption of fish is low, the salmon industry was severely depressed.

Direct marketing helped many fishermen reclaim the market this year by allowing fish to be sold directly off the boats, he explained, without relying on middlemen. The process worked well for salmon fishermen who were able to sell the smaller fish for family consumption. However, Goldenberg said direct marketing did create some animosity with fish buyers, who were cut out of the process. He said the marketing chain would be hurt if buyers were forced out of business completely, but added that marketing orders establishing fair prices could be required to bring the system back into balance.

In the area of marketing, Goldenberg said CSC had recently submitted a grant proposal to the U.S. Department of Agriculture's Federal State Marketing Improvement Program (FSMIP) to study all segments of the wild salmon industry to improve the product's market viability. By evaluating market impediments, Goldenberg said the council hoped to develop more effective marketing strategies. Among the questions to be addressed were whether or not consumers knew the difference between farmed and wild salmon, whether taste and availability of product was a factor, and what role cost played in the consumer's mind. The FSMIP grant proposal was declined, however, but he said the group would seek out other funding sources to pursue the research.

Efforts to protect U.S. markets were also discussed. Goldenberg said the U.S. farmed salmon industry had filed a trade dispute against the Chilean salmon industry for export dumping. The wild salmon industry hoped to study the impacts of these farmed imports, but lacked the resources to do so. He applauded Assemblymember Strom-Martin's 1997 legislation, AB 1315, which sought to tax imported salmon in an effort to promote salmon marketing.

Another solution Goldenberg presented was to alter fishing seasons in order to address marketing concerns. Concentrating the fishing season in a few ports leads to overloading of buyers, he explained, driving prices down in those ports while completely shutting other ports out of the industry.

Goldenberg said CSC was the only state entity with authority to negotiate the purchase of tribal fishing rights and that the council was working to reach an agreement on such a purchase. He said the council works closely with DFG, which collects fish landing fees and reconciles the funds collected with landing receipts. He said the lack of enforcement staff makes it difficult to verify that all landings are accurately reported and predicted that 1998 landing receipts will be especially low.

Goldenberg concluded that the salmon industry's problems are both economic and environmental and will require a strong commitment from both the industry and government to resolve.

Bob Miller
San Francisco Crab Boat Owner's Association
"Impact of Japanese Imports"

Mr. Miller said he believed the effects of foreign fish imports are real, imagined, and manufactured, and that they are clearly designed to impact prices. He said the effects of farmed imports are clear, noting that the downturn in the Japanese economy had temporary, yet serious economic effects on the California fishing industry. As Asian fish flooded the markets, local buyers said the wild fish were unacceptable and offered $1 per pound or less. When fishermen began selling fish directly from their boats, Miller said the buyers doubled their offer, proving that the Asian economic crisis had been used as an excuse to drop prices.

Miller said a new approach is needed to marketing fish, and that the real demand for a quality product is found locally. He said many consumers question why the best fish are not available in local markets, but instead, are shipped abroad. He said the fish processors have exaggerated the impacts of foreign imports on local markets. Imported farmed fish are lower in quality, but the price fluctuates with the availability of wild fish in grocery stores. At the onset of the wild salmon season, Miller said farmed fish are dumped into the market, driving prices down. Later in the season, the cost of farmed salmon climbs, with the result that fish processors profit at the expense of the local fleet.

He noted that San Francisco restaurant owners are choosing the fresh-caught fish over fish from fish buyers. He said many farmed fish are raised on antibiotics and additives and probably should be approved by the Food and Drug Administration prior to sale.

Miller said something must be done to better regulate and monitor the market, noting that the industry will die if fisherfolk are not able to make a decent living.

Chuck Wise
Bodega Bay Fishermen's Marketing Association
"Direct Marketing"

Mr. Wise discussed the fishing industry's need to increase the value of its product in the wake of increasing regulation, growing competition from imports, and the consumer trend to find alternative sources of protein. He cited the example of the live rock cod fishery, which has improved market returns by creating a specialty market. He described the salmon fishery's direct marketing effort, which was generally seen as a last resort means of improving returns.

Wise attributed the problem to a breakdown in the markets, with fishermen being offered 90 cents per pound for salmon in 1998. Comparing the profit decrease to past years, when 50 fish brought $1,000, Wise said the same volume of fish brought only $250 this year. He said the direct marketing effort began in Half Moon Bay, where the direct sales were viewed as a special event and created a good rapport between consumers, fisherfolk and restaurant owners.

In Bodega Bay, Wise said the marina manager worked with the county to make direct marketing possible. He explained that county support had been vital, with the division of weights and measures certifying the weights of the fish for a small fee. Although the fishermen did lose fishing time while selling fish off the docks, Wise said the effort served as an educational tool that helped the industry reestablish itself in local markets. Wise said the public response to direct marketing was generally good, giving the public access to a low-cost, high quality product that produced a good return. The Bodega Bay effort also had support from the California Salmon Council and the county agriculture department, which provided tags verifying the location of the catch and sale. These "Sonoma Select" tags helped consumers know the fish was locally caught by local fisherman.

He said the industry would have been hit very hard in 1998 under the old marketing scheme, and said direct marketing was a good tool to re-focus industry goals. He encouraged additional support for marketing and advertising efforts, saying the quality of wild salmon needs better promotion.

Wise urged support for laws providing seasonal market protections or tariffs to help local fishermen. He also questioned whether profiteering is a factor in the fish-buyer and processor regime, saying buyers who once competed for fish now pay minimal prices and sell for as much as seven or eight times their investment. Wise expressed concern that the collection of landing taxes be continued, noting that the direct marketing process bypasses regular landing procedures. Noting that the assessments support organizations like Pacific Coast Federation of Fishermen's Associations, Wise said it is important that landing taxes be paid.

He urged support for better identification of farmed fish. He said CSC has promoted truth in labeling and has provided markets with signs to display with wild fish, but said the council has no regulatory authority. He credited Assemblymember Strom-Martin with researching the truth in labeling issue for possible legislation.

FINDINGS AND RECOMMENDATIONS

Findings:

- Adverse weather conditions and Asian imports flooding U.S. markets hurt the 1998 salmon season.
- Foreign farmed salmon that is dumped in U.S. markets drives down the price of locally-caught fish.
- Research is needed to determine if U.S. consumers are aware of the difference between wild and farmed salmon, if price is a factor, and what role taste and availability play in the consumer's mind.
- Fishing seasons concentrated in the same geographic vicinity flood markets and drive prices down.
- U.S. fishermen can improve their returns through direct marketing.
- Direct marketing helps reconnect consumers with the fishing community and can raise community support for industry efforts.
- Direct marketing makes it more difficult to verify the accuracy of landing receipts and to collect landing fees.
- Consumers are not aware that many farmed fish are raised on antibiotics and other chemical additives.
- Some fishermen are turning to specialty markets, such as the live-fish fishery, to improve the value of their product.

Recommendations:

- The state should encourage processors and the fishing industry to work toward establishing fair pricing in order to help fishermen earn a fair return for their product.
- Fishing seasons should be staggered in order to avoid flooded markets.
- The state should support direct marketing efforts and facilitate completion of landing receipts and collection of landing taxes, which support fisheries research and management efforts.
- The state should require truth in labeling so consumers know they are purchasing locally-caught wild salmon or imported farmed fish.
- The state should support marketing research to help improve California's fishing industry.

Vivian Bolin
Salmon Returning
"Habitat Restoration Work"

Ms. Bolin described her work in habitat restoration through the Coastal California Provincial Advisory Committee designated in the federal Northwest Forest Plan, and her role as a member of Mendocino County's Fish and Game Commission.

Bolin said the goal of restoration work is to return salmon populations to sustainable levels with a harvestable surplus. She said the opportunity to employ displaced fisherfolk is an added benefit, and encouraged support for legislation to provide ongoing funding for cooperative restoration work.

Describing the condition of the fishery, Bolin said 106 major northern California salmon runs are extinct and another 214 are at risk. In 1996 the industry supported fewer than one-fourth of the fisherfolk it had supported in 1980, and California salmon fishing had decreased by 85 percent over the past 20 years. She said streams where fish are still found host fewer than 200 migrating adults each year, and that most North Coast streams have been declared sediment impaired and temperature impaired under the Clean Water Act.

She cited the need for spawning habitat that includes clean gravel, cold deep pools, hiding places and food for fish populations to survive. Habitat restoration efforts are designed to address these goals, as well as to minimize erosion from upslope roads and to monitor habitat conditions. Bolin said the Northwest Emergency Assistance Program has provided $2.8 million dollars for restoration work in Northern California, and work has been done in collaboration with landowners, including timber companies and ranchers. She applauded the program's offer of landowner incentives to preserve streamside property, mitigation, and free labor to inventory roads and riparian habitats.

Bolin said the goal that restoration work will improve the value of fish stocks is far in the future. While she agreed that restoration projects provide immediate benefit for salmon, she said the work is wasted unless it is done in concert with watershed conservation on both public and private lands. State regulation fails to prevent human impacts, she said, and she cited the example of California's Forest Practice Rules, which do not address the need for ongoing road maintenance in salmon watersheds. Bolin said the grid of unmaintained and abandoned logging roads presents a constant threat to newly restored streams.

Bolin said the salmon industry is the only industry in full compliance with the Endangered Species Act protections for coho salmon, noting that the industry receives no compensation for their compliance. She said the industry has acted on its own to conserve the resource, yet the National Marine Fisheries Service (NMFS) has yet to release rules for forestry or agricultural impacts on salmon populations. She said NMFS is negotiating with timber companies and landowners to allow endangered species to be killed during the course of normal operations under the guise of habitat conservation plans. She questioned private landowners' commitment

to protecting endangered species, noting that many remaining salmon populations are found in the same areas as Pacific Lumber Company's largest tracts of old growth trees.

Bolin declared the answer to be in extensive public education about habitat needs, in restoration and road maintenance work, and comprehensive watershed planning. Funding to continue the work is also a critical need, as is hiring displaced fisherfolk, and preservation of remaining habitat.

John Fonseca
Pacific Marine Farms
"Contained Mariculture"

Mr. Fonseca described Pacific Marine Farm's (PMF) plan to develop a contained mariculture facility in Fort Bragg. Mariculture is the process of farming marine species for food or other commercial uses. Fonseca said the proposed PMF project would utilize the vacant Georgia Pacific lumber mill site and would be fully self-contained. The company will begin raising shrimp and coho salmon at the onset as it develops its long-term stock of abalone. When fully operational, the plant would employ about 70 workers.

While many foreign farm-raised fish are subsidized, Fonseca said PMF is relying primarily on private funds and the market product will not be subsidized.

Fonseca said the company shares concerns regarding environmental contamination from the plant, noting that with the self-contained system, only 10 percent water loss from evaporation was anticipated and that waste produced on site would be converted to fertilizer.

In many shrimp farms, Fonseca said viral contagion is a problem. He explained that PMF planned to buy live females with eggs and that the company was working with the California Sea Grant College to develop a substrate in which the larvae could be raised.

The PMF plan also included a proposal to harvest wild squawfish from local streams for use as a component of the feed used.

Duncan MacLean
California Troll Advisor, PFMC
"Aquaculture's drawbacks"

Mr. MacLean discussed the severe decline in the North Coast's fisheries and noted that competition from aquaculture is a contributing factor. He said the public holds the false impression that by eating farmed salmon they are helping wild stocks. There are many problems associated with aquaculture, he stated, among them environmental contamination and the accidental release of farmed salmon, which have degraded the environment and presented unwelcome competition for wild stocks.

MacLean cited the example of an abalone farm in Half Moon Bay that gained state and local government approval in spite of plans for the open release of waste material into the bay. The project proposed raising a South African species of abalone in open cages set in the harbor. He explained that such a project could place native stocks at great risk of contamination by the Sabbelid worm, which impairs normal abalone growth and has been found in most of California's aquaculture facilities.

Regulation of the fishing industry has widespread impact, MacLean said, yet aquaculture remains unregulated after 30 years. He called for regulatory solutions to the problems in aquaculture that can be resolved, but said he believed more often than not that profit dictates the final response.

MacLean said that through payment of license fees he and others in the salmon industry support the aquaculture approach carried out by the Department of Fish and Game's (DFG) hatcheries and propagation enhancement work. Under DFG's program, fish are spawned and released as juveniles into streams and rivers in an effort to enhance populations or to mitigate for habitat loss. MacLean credited Bodega Bay Marine Lab's winter run broodstock research for contributing to that effort. While he said the financial return on this form of aquaculture is less predictable, he said the environmental impacts are far less severe. He said the problems of genetic diversity in hatchery stock could be addressed through altering hatchery practices and should not stand in the way of helping to restore the resource.

MacLean expressed his hopes that the industry could be revitalized to a level of prosperity that would make it possible to pass the business on to his son, and urged continued attention from the legislature to help achieve that goal.

Tom Weseloh
California Trout
"Recreational opportunities"

Mr. Weseloh spoke about the economic contribution of salmon and steelhead sport fishing, which once was a $4.5-$7 billion industry in California that created significant spin-off revenue in the community. The decline of those species has had an undetermined effect, but he said loss of habitat is clearly the cause. Weseloh criticized the inequity of the regulatory system that fails to address the impacts of timber, agriculture and hydroelectric power projects on fisheries, while placing onerous regulations on the fishing community.

Weseloh said all species in the sport fishing industry are in decline, but only the coho salmon industry is in full regulatory compliance. In spite of this, he said there has been no response from the fish because no additional measures have been taken to protect habitat. He said closure of northern California's steelhead fishery is pending, and the species is already listed as endangered in southern California rivers. A National Marine Fisheries Service proposal would have closed all rivers to fishing, yet failed to apply the "no take" provisions to other industries.

He described the success of the Russian River fishery, where a memorandum of agreement (MOA) that closed tributaries to fishing has allowed the status of steelhead to be downgraded to "candidate species." On the Smith River, sport fishing is under a one-fish limit, with additional restrictions depending on the season or water levels.

Weseloh said habitat provisions of the Endangered Species Act are not implemented because the rules are too complicated. The result is that the sport fishing industry is leaving California for Canada and other locations. He commented on the irony of Governor Wilson's proclamation on Hunting and Fishing Day when no sport fishing was allowed.

Weseloh did credit the Department of Fish and Game for their accomplishments through MOAs, but said the lack of staff to enforce regulations and to fill fisheries recovery program needs makes the effort meaningless. He also criticized California Department of Forestry for failure to carry out terms of the MOA.

Implementing one-fish take allowances could restore the sport fishing industry, Weseloh said, and he noted that many sport-fishers were even willing to release their catch. He said the change should be made for hatchery stocks, which are marked, and could exclude wild fish.

Weseloh praised Assemblymember Strom-Martin for her interest in reviving the fishing industry and urged a continuing dialogue in order to reach the best possible policy solutions for restoring this threatened way of life.

FINDINGS AND RECOMMENDATIONS

Findings:

- Habitat restoration work offers an opportunity to employ displaced fishermen while working toward the goal of returning salmon populations to sustainable levels.
- Cooperative restoration efforts need continued funding from both public and private sources.
- Most north coast salmon streams are considered sediment impaired and temperature impaired under the Clean Water Act.
- Timber and agricultural land use regulations are not in compliance with Endangered Species Act protections for threatened and endangered salmon species.
- The restoration goal of sustainable fisheries means little without broadly implemented watershed conservation efforts and regulatory support.
- Poorly planned aquaculture efforts have introduced disease and pollution into the natural environment.
- A carefully planned and regulated mariculture industry can contribute to the local economic base without adversely impacting the environment.
- The aquaculture industry has been active in the California for over 30 years, yet further regulation may be necessary.
- The hatchery approach to aquaculture, as operated by the Department of Fish and Game, contributes much to fish stocks with the potential for less severe environmental impacts.
- Declining salmon and steelhead stocks have had a substantial impact on the sport fishing industry.
- Government regulation fails to address the full impacts of timber harvest, agriculture and hydroelectric facilities on fisheries while imposing strict regulation on the fishing industry.
- Because additional habitat protection measures are not carried out, sport fishing species continue to decline in spite of restrictions on the fishing industry.
- Cooperative agreements between the Department of Fish and Game and other users provide for greater habitat protections while allowing some fishing to take place.
- "One-fish" take allowances allow a sport fishery to remain open while affording strong protections for fish.

- A shortage of staff hinders state and federal efforts to enforce fisheries protections and to carry out recovery programs.

Recommendations:

- The state must support cooperative habitat restoration efforts that involve landowners, government regulators, and industry users.
- The state and federal government must implement and enforce equitable regulation of all land use practices affecting anadromous fish habitat.
- The state must improve regulation of the aquaculture industry in order to ensure aquaculture practices have no adverse environmental impacts.
- DFG must develop methods to address genetic diversity in hatchery stocks.
- The state must support collaborative approaches to watershed management, such as DFG's memorandum of agreement on the Russian River.
- The state should research the benefits of allowing a "one-fish" take in sport fisheries to help the industry remain active.
- The state must adequately staff management and recovery programs.

CONCLUSION

The Select Committee on Rural Economic Development studied the declining North Coast fishing industry in order to develop strategies that would help reverse that decline. From the breadth of subjects covered in the October 2; 1998 hearing, and the many remedies suggested, the committee has much work to do.

The need to establish equitable regulations to protect anadromous fish habitat is clear. The challenge will be to bring the region's vast timber and agricultural interests to the table to work toward a swift but manageable scheme for complying with Endangered Species Act provisions. Support from both the state and federal government will be needed, as well as the endorsement of the Pacific Fisheries Management Council. As a member of the regional Pacific Fisheries Legislative Task Force, Assemblymember Strom-Martin is in a good position to work toward regional support for more effective habitat protections.

The problems of marketing fish also invite interesting solutions. Direct marketing efforts have offered an innovative and successful means of improving fishing incomes, and those efforts merit support. But fish processors and retailers are also a part of the region's economy. New marketing orders from the Department of Agriculture could help improve market prices for locally-caught wild fish, benefiting both fisherfolk and fish processors. Truth in labeling could also enhance the marketability of wild fish, as would efforts to discourage the dumping of foreign-farmed fish on local markets.

Fisheries management strategies present a more troublesome impediment. Without additional research to help provide population counts for the various species, the prospect of setting meaningful limits is difficult at best. Assemblymember Strom-Martin's bill funding the 1998 Marine Life Management Act established the groundwork for such research, but the program will need an on-going commitment from the Legislature and the Administration. The Act's move to take fisheries management decisions out of the Legislature's political realm is promising -- as long as sound science is allowed to frame the debate.

Financial support for habitat restoration is of critical importance, as is support to help communities develop alternative schemes for economic revival. Just as the Pacific Northwest forest communities received federal support when spotted owl regulations shut down the timber industry, fishing communities need similar assistance. Funds must be made available for retraining, for developing alternative approaches to resource use, and for community planning.

A final, but pivotal issue is the shortage of staffing to enforce the regulatory and promotional programs that will help our fisheries recover. Without full support from the state and federal governments, fisheries management programs can accomplish little, and the toothless advisory role biologists play in assuring habitat protection on private lands will continue. The government must take seriously its role as steward and protector of this vital resource if we are to hold any hope of keeping our fisheries alive.

These and the other recommendations listed throughout this report are offered as part of the solution to the fishing industry's plight. It is the Committee's hope that this information will

provide the impetus for other members to also take up the fishing community's cause during the coming session.

APPENDIX 1

The following written comments were submitted during the two-week period following the October 2, 1998 hearing.

Comments of

Michael Maahs
Board Member,
Salmon Trollers' Marketing Association

SALMON TROLLERS MARKETING ASSOCIATION

Briefing Packet on Coho Salmon and Endangered Species Act.

May 22, 1998

Fort Bragg, California

This compendium of events documents historical facts relating to the listing of coho salmon as an Endangered Species. The Federal, State, or County government has rarely acted out of concern for the health of our Salmon stocks. The motivating force behind regulatory control of the fishing industry has been due to the ulterior motives of the agencies and their corporate sponsors, and laws that a there to protect the environmental are the result of shear pressure from fishing and environmental groups and the general citizenry in opposition to those who have control or ownership of private property. Today's listing of coho salmon results from a unique set of circumstances that combine many of above elements. I hope that this presentation will make that evident. I try to make this presentation as the once numerous membership would best represent their interests.

* * * * * *

IN 1958, Outdoor California reports that "a new coho salmon egg-taking station just north of Fort Bragg on Puddings Creek has completed its first season of operation successfully, taking well over its quota of 150,000 eggs....They'll be planted on a trial basis in several coastal streams in an effort to restore runs which over the years have declined for a number of reasons. These would include man-made causes such as careless logging, overgrazing, road construction factors and others. An additional 500,000 coho salmon eggs were obtained from Oregon and Washington."

In 1959 the same journal reported "planted waters ranged form Del Norte County's Smith River to the San Lorenzo, near Santa Cruz, and included Big River, Noyo, Garcia and Mad Rivers, the South Fork Eel and Puddings Creek....The plants are but one phase in a three-pronged program designed to rebuild the natural salmon runs. Equally important are two other phases-- restoration of habitat and evaluation of results...Plans are underway for major log jam removal and other cleanup work in the Noyo River.

In a 1964 Inland Fisheries Admin. Report the results on the Noyo cleanup work. It is reported that " This report covers one of the first major stream clearance projects to be

conducted in the State...A total of 36 miles of spawning and nursery areas of the Noyo River drainage were improved....The project was deemed beneficial, although no satisfactory method was devised to evaluate results. Contrary to popular belief, the principal benefit of log jam removal is not removal of impassable barriers. It is the improvement of habitat by permitting scouring winter flows to remove silt and gravel deposited behind log jams". It was reported that about 5 percent of project work fell into the category of removal of definite barriers. The author also noted one problem, that there was " a tendency to be over meticulous in the clearing of small unimportant debris."

In a 1971 Fish and Game publication reported that "there are many silver salmon runs on the California coast but no California streams has a large silver salmon run. Many California silver salmon streams have been degraded by siltation resulting from improper logging and road building practices. The present program of stream improvement and artificial propagation should result in increased silver salmon runs....The main threat to silver salmon runs in California is the danger of losing one run at a time to siltation, dams, diversions or pollution. Where each stream forms only a minor part of the total it is hard for conservation forces to rally enough public opinion to save a stream that is then currently in danger.

Fifteen years after local groups, which included such people as Ray Welsh and Bill Grader, initiated the Puddings Creek egg collecting station and who along with the Department of Fish and Game recognized the problem with siltation of our stream channels, 1973 the California Forest Practices Act became law.

COHO SALMON AND FISHERY MANAGEMENT

In 1970, a study titled *Manipulation of Columbia River hatchery Coho Stocks to Meet the Needs of Fishery Management*, reported that marking studies had found a marked difference between two coho stocks, 1) a early run Toutle stock and late running Cowlitz stock. Toutle stock were harvest primarily south of the Columbia while Cowlitz demonstrated a more northern distribution and appeared to be harvested in greater numbers off Washington. The report stated " The implementation of the hatchery program on the Cowlitz River provided the Department (Washington Dept. of Fisheries) with the opportunity to study these fish prior to making hatchery production decisions..."

In 1972 Washington released 13.58 million Toutle coho into the Columbia and 5.32 million Cowlitz coho. By 1975, the ratio was reversed- 11.5 million Cowlitz stocks were released compared to 6.2 million Toutle. Later efforts to hybrid cross resulted in a small, late returning fish with poor survival which Canadian fisherman blamed for plaguing their fishery (**The Fisherman**, 1982, The Fisherman Publishing Society Vancouver BC)

In 1973 at a California Wildlife Federation meeting in Arcata Ca, Sam Wright of the WDF stated that if California didn't close its coho season until July 1 that the State of Washington would start raising coho that would not come to California.

It was Oregon's governor tom McCall who in a 1975 publication titled To Stem The Tide, Effective State Marine Fisheries Management states" California fisherman keep insisting on harvesting salmon that Oregon sent to sea, even though the salmon are immature. The last time I dealt with California on that subject , I said our fisheries biologist were going to see to it that Oregon salmon would never again darken California's door. We were, I said, going to develop a "right turning" salmon, so that on leaving the Columbia this fish would go north toward Washington and Alaska, make their swoop somewhere around the 45th parallel and then come home where they belong."

In 1974, Judge Boldt ruled that to fish in common with meant Washington Treaty tribes were entitled to 50 percent of the fishery.

In 1975 in Washington State's Plan for Revitalizing its Salmon Fishery the stated goal of the Plan was to " optimize the value of the salmon resource while generating a healthily and **orderly** industry" It further stated, after acknowledging that there were then fewer salmon than there were previously, that " the salmon supply is essentially a fixed quantity," and referring to Washington's sports fishermen, it states" As we hope they now understand, the problems really lay in hatchery production of the wrong kind of fish for their purposes, and neither more of the same kind of hatcheries nor reduction of netting...was likely to increase their success". Hatcheries it said, were "producing salmon that went directly to the ocean and the bulk were taken there by unseen troll and sport fisheries, then large numbers on non-biting fish returned to the Sound. Consideration of the possible means to produce salmon that would be available and bite for sportsmen has led to important successes;....another factor that we believe has been important in devitalizing the salmon industry has been the uncontrolled transfer of catch from one fishery or fishing group to another. Example are the increased proportion of chinook and coho captured in the ocean rather than in the near-shore net fisheries" After mentioning Japanese and Canadian fisheries the report states...a critical problem within Washington State...is interception . We will expand the definition to mean failure for caretakers of a salmon stream to reap the benefits of their investments and ownership....There is the further question, particularly obvious in an energy shortage, of why anyone would pursue this strange creature on the high seas for commercial purposes when this strange creature returns to shore where he can be harvested for trivial cost and greater value." As a solution the report states " There are a number of apparently reasonable methods that could be instituted for regulating the offshore fisheries, both to bring a greater share of salmon inshore and to reduce wastage. These include time and area closures, size limits changes, gear improvements, and ultimately, fleet catch quotas. In the past, trollers have responded to such suggestions by indicating that they will continue to fish as they choose, landing their fish in other states". As a proposed enhancement project for the Columbia River, the Plan recommend (1) rehabilitation and/or protection for certain species or stocks...and (3) manipulation of species or stocks for specific fisheries benefit.

In 1976, California legislature authorized the Fish and Game Commission to issue a permit to operate a experimental domesticated anadromous fishery at Davenport Landing for SilverKing Oceanic Farms.

In 1979 Weyerhaeuser proposes salmon ranch in Humboldt Bay claiming 3-5 million dollars in construction jobs, 10-15 permanent employees, increased fishing opportunity, release of 2 million coho and 2 million chinook, no significant impact on estuary, no pollution, and of course local and state tax revenue.

In 1981, Weyerhaeuser corporation lobbied for passage of AB 1458 which would allow Ocean Ranching in California. It failed only because of massive lobbing effort and the California Resources Secretary's agency opposition. Salmon Trollers Marketing Association send a bus load of fisherman to infiltrate the halls of the State Capitol in an all out effort to stop this sellout of a public resource.

In 1978, American Salmon Growers Association (ASGA) of Washington writes the Pacific Fisheries Management Council (PFMC) stating " One association which has not had input into the Council has been the ASGA...Many of the Council's polices directly and indirectly affect our membership, and since the Council says it will consider the interests of private salmon producers, the ASGA would like to have a representative on the PFMC...ASGA membership feels that the representation given by Mr. Sandison and Mr. Martinis while potentially supportive of our goals, does not satisfy the need for representation from private salmon growers of Oregon and Washington.

In 1978, a spawning escapement goal for the Klamath River Chinook run was set at 115,000 fish without any documentation of its appropriateness.

THE 1980'S

In 1980 the Conservation and Enhancement of Salmon and Steelhead Resources Act was passed by Congress. Part D stated "The Secretary of Commerce...is authorized to distribute Federal funds to the State of Washington ...for the purchase of commercial fishing and charter vessels and licenses by the State..."

In 1981, ruling by Judge Orrick gives Indians the right to say aye or nay on corporate use of their resources which affect streams, rivers, waters, watersheds - anything that affects salmon reports the Oregon Journal in November of that year. A committee, headed as chairman by John Larsen of Weyerhaeuser and made of up representatives from aluminum, oil, railroad, forest products and banking firms, raised about $100,000 to study the Orrick ruling and come up with a plan to counteract it.

The interesting comparison here develops with a look at salmon ranching in Japan. When ocean ranching for Pacific salmon got a solid foothold in Japan, it wasn't long after that ocean ranchers completely controlled the pricing index. Shortly afterward, Japan's commercial salmon fishing, as well as its sport fishing , totally collapsed. There

to the Klamath tribes. This effectively put an end to a commercial fishery north of San Francisco.

Throughout the 1980's and 1990 through Oregon proposed and the PFMC adopted steadily increasing coho salmon escapement goal requirements for the ocean fishery while steadily increasing the allocation to sport fisheries in the State of Oregon. To accomplish this goal, the PFMC had to transformed a long historical data base of spawning data, which had been developed as an index of abundance, into numbers of fish to allow the creation of spawning escapement goals and ocean catch quotas. An escapement goal was established for Oregon Coastal Natural stocks, utilizing these newly created escapement estimates. This 200,000 fish spawning goal has been rarely met. A part of that goal development included an assumption that habitat would not be fully seeded until a given number of spawners per mile of stream had been reached. The continuing failure to meet this goal was a sure sign fisheries were overfishing. The ability of the habitat to rear the required density has, it appears, not been a relevant factor to consider. And of course any attempt to modify this goal could only be seen as an attempt to ignore the problem of overfishing!

Adding to the problem, the private ocean ranchers went out of business and were no longer filling spawning streams with their hatchery strays, making escapement number within those areas look even worse. These corporations moved south to Chile where, thanks to the State of Washington and Federal government who had for years been selling excess salmon eggs, a booming business enterprise had begun.

After a long period of time of not meeting escapement goals environmental groups began to involve themselves in fisheries management coincident with the not surprising discovery that Oregon's index areas were not representative of the average Oregon stream. Now the escapements were even farther from goals, and instantly, overfishing took on megalithic proportions. At about the same time, due to such things as the California Department of Forestry and Governor refusal to accept Mendocino Counties recommendation for timber harvesting rules, those efforts trying to curtail the depletion of the timber resources, turned to the Endangered Species Act as the only tool left in the war chest; first with the spotted owl, then marbled murrlet, and finally the coho salmon.

Increasing at exponential speed, the steelhead and all of California's chinook stocks, *except the Klamath fall and quite rare wild spring run*, have also been proposed for listing. With the inclusion of the Sacramento fall run chinook as a listed species, the mainstay of the only remaining ocean fishery along the lower 48 is in jeopardy. Even the south coast fisherman who felt free of the corporate sponsored wrath felt by its northern cousin, is now feeling the same kind of heavy handed politically motivated action by the Federal government. Fisherman read in the press that Jim Lecky, with the announcement that Sacramento fall runs is proposed for listing assures water users that increased flows will not be needed but warns fisherman of impending cut backs - to save the natural runs. Meanwhile the Interior Department and Governor work to develop the latest version of the peripheral canal. It is no longer the interest on the American ocean rancher that

is a lot of heavy politicking, right now, aimed at ocean ranching in this country, with the West Coast states of California , Oregon and Washington as the principal target areas.(Western Saltwater Fisherman, 1981)

In 1982 in an Oregon Fish & Wildlife reported that private hatchery coho released into Yaquina Bay strayed throughout the Yaquina and into at least three other watersheds and weakly admitted that stray hatchery fish could introduce harmful genetic material to a local population, over-seed spawning areas, or replace wild fish in rearing areas. 44 % of Yaquina fish were strays from ORE-AQUA.

In 1982, the PFMC wrote " ...Increasing severe restrictions on inside fisheries failed to halt the downward trend in salmon populations despite major artificial propagation programs to supplement dwindling natural production...In recent years the ocean salmon fishery understandably, have been the focus of Pacific Salmon management...some remedies and adjustments have been and will continue to be painful in the short-term However, the long-term promise is revitalization of the depressed pacific salmon resource...The principal challenge before the PFMC is to regulate ocean salmon fisheries under its jurisdiction to insure spawning escapements, meet Indian Treaty obligations and maintain the productivity of the salmon resource and the freshwater fisheries which depend on it...Beginning in the early 1960's, massive artificial propagation programs were employed to supplement dwindling natural production and partially compensate for the loss and degredation of natural habitat....Prior to the FCMA...ocean fisheries took an increasingly disproportionate share..Quotas have long been advocated as necessary to limit ocean harvest...Despite unprecedented restrictions on ocean fisheries under the Pacific Council jurisdiction some major chinook and coho stocks continue to decline. Indeed, some major chinook and coho stocks are at such critically low levels that completely eliminating ocean fishing within council jurisdiction would not meet escapement goals."

In a report to the PFMC by the Salmon Plan Development Team in January 1982, it is stated " Fisheries which operate in areas where both natural and artificially produced stocks are present will either overfish natural stocks or underfish hatchery stocks...To accommodate these differences, fishing rates, in areas where hatchery and natural runs are intermixed, must be limited to those rates which are needed to adequately protect the weakest natural spawning stock present."

Once data began to show that the 115,000 fish goal for Klamath escapement was totally inappropriate, and in fact harmful to production, and where it was shown that the best production resulted for escapements between 20 and 35 thousand spawners, rational for closing fisheries for Klamath escapement objectives , the PFMC began gradually increasing the share of Klamath Salmon going to tribal fisheries. Finally in 1992, due to the PFMC refusal to allocate a 50 percent share of Klamath fish to tribal interests, as demanded by Klamath tribes and Secretary of the Interior Bruce Babbitt, the Department of Commerce used its authority to override the PFMC's decision and allocated 50 percent

dominates agency action, although Chile was recently cited for dumping salmon into the American market below cost and salmon fisherman are receiving the lowest price for their fish since the mid 1970's.

Measures to Protect Coho Habitat

Coho salmon habitat needs protecting. Protection of habitat should not be so burdensome for small landowners to give advantage to large corporations. Landowners who have managed their land responsibly should not have to pay for those which have not. The greatest threat to coho habitat will occur in the future if the supply of timber is reduced and the resulting value of the timber stands remaining along streams increases. Without clear protection for these areas they will become increasing vulnerable. These areas need not be no cut zones, except perhaps as a temporary measure, as these areas produce the highest quality timber and should be managed for that purpose as well as fish habitat benefits - the two goals are mutually achievable. From my own observations the current forest practices are sufficient to protect stream habitat as long as there are limits to the proportion of a watershed that can be cut within a given period of time and providing the regulations are enforced. Special care in this regard should be given those areas which have coho runs.

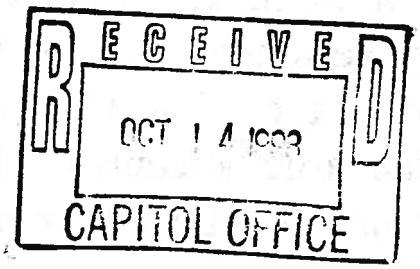
From what I have seen, the NMFS has a poor understanding as to the factors limiting coho salmon populations and as such should be very wary of allowing Habitat Conservation Plans and Sustain Yield Plans to have 20 or 100 years exclusions from having to address any lacking within those plans which may become apparent in the future through a better understanding of the factors limiting production. This though is unlikely to occur due to the appalling lack of any major effort by the State or Federal government to collect data on the current state of the coho population in the state. Apparently their is no longer a need for a basis to constrict the ocean fishery

The fisherman of Fort Bragg have never received any form of compensation for the loss of their livelihood and devaluation of the investments due to salmon closures- closures which to date have not been shown to have improved any salmon run. As the government had the decency to buy out Washington fisherman who were put out of business by a 50 percent Indian allocation, our fisherman instead have their boats rotting in the harbor while having pay harbor fees and license whether they have a fishing season or not.

Michael Maahs
Board of Directors
Salmon Trollers Marketing Association, Inc.
P. O Box 137
Fort Bragg CA 95437

Comments of

Kenyon Hensel
Crescent City Commercial Fisherman



Kenyon Hensel
871 Elk Valley rd
Crescent City CA.
95531

Dear, MS. Gaubatz,

Enclosed is the letter I sent to the P.F.M.C. in June to address their meeting about the closure of the ling cod season. The Quota for the yearly catch of ling cod had been met. What the counsel decided was to cut off the catch of for the hook and line boats, but allow the drag boats to continue to land 500 lbs of fish per month. this was because the drag boats kill their catch in the process of dragging. The hook and line boats where forced to release their full catch for being environmentally friendly.

This kind of backward thinking has no place in resource management. It would have been better to have the drag boats either not net rock cod because of ling cod by-catch, or throw all ling cod overboard to discourage towing nets in their areas. The counsel can not even ban the use of roller nets which target the lower part of the school where the ling cod spend most of their time.

What we need are regulations which force the drag boats to bring in their total catch without any discards. The boats should get a good price, and be carefully regulated on how much time they can spend on the water dragging for rock cod. This kind of regulation is impossible for the industry to do to it's self. Most captains would like to

10/14

eliminate by-catch, but are afraid of not making money on undesirable species. It takes the government to assure the boats they are profitable. This is what the P.F.M.C. has done. By giving the trawl boats the large percentage of stock to catch. The P.F.M.C. has also guaranteed the big boats greater profits in the future by promising them to buy out excess boats to give the ones left a greater allegation of fish in the future.

I have lost my allegation because the open access fishery was over loaded with boats and never closed. This year there were more boats then ever many trying to make up for lost income due to the worst weather in memory. Also there were two poor crab seasons in a row. this pressure is very hard on a fishery. The open access most be closed if the resource is to be managed properly. It is morally wrong for a resource conserving operation like mine to be broke because we reward money and waste over responsible usage.

Thank you for your time in reading this. this affects more people then myself. It is my belief that all of those people who belong in this fishery can make a sustainable living. By retiring old licenses and well written laws, we should all get alone as best as fisherman are able.

Sincerely,

Kenyon Hensel

KENYON HENSEL
871 ELK VALLEY RD
CRESCENT CITY CA.
95531

JUNE 12 1998

Dear Sirs,

I am a commercial fishermen who works a 24 ft boat out of Crescent City CA. I fish for Rockcod with rod and Reel. I have been fishing this way for the last 15 years. During this time, I have watched as the larger boats plundered the rockcod stocks in a very wasteful manner. Like a kid with to many toys, the big boats brought in more fish then the processors could handle, leading to waste and depletion.

I decided that instead of expanding my catch as a way of making more money, I would increase the value of what I caught. Value added fishing. This way I would better use the resource I had access to.

Over the years I have developed a market for rod and reel bled rockcod cut the day it's caught, and sold here in Crescent City and out laying areas. Up until this year I was even buying fish from other boats who would treat their catch in a manner consistent with my standards of quality. I have also taught a few who would listen, how to do what I do. Now all of this is changing.

Because of the counsels decisions on Ling cod, I have lost one third of my income. I make more money per pound then the other boats who sell over the docks. Thus I use less resource to make my living. Ling Cod sells for more money then snapper, so the lost of it hurts a lot. Ling Cod makes up one third of my income, and now I cannot sell as much as the scarcity has lead to a increase in the price that the boats I buy from have to have for the few fish they can catch. Many boats have redirected their fishing effort.

The outcome of Ling Cod allotments on my selling of the fish at first glance looks good, a higher price, but on closer examination is a detriment. The higher price puts Ling Cod close to Halibut which is (due to I.F.Q.s) in steady supply. Now I cannot get enough Ling Cod for my accounts. So I lose buyers instead of making more money. As the counsel debates ending the fishing for Ling Cod this year and how to utilize the quota for next year, I would like you to know the effects of your decisions.

It seems to me that the resource should be allotted to the people who use it the wisest. Yet I know that politics rarily allows the sensible usage of resources. So I would like to suggest a simple change which would at least help the Ling Cod and level the field for us small boats. If you where to stop Ling Cod fishing during Dec.through March, the fish would have a chance to spawn and the weather to moderate so that the smaller boats could fill their quotes without losing

their shares to the bigger boats with their weather advantage. This also would allow all of us to sell our fish on the summer market. Instead of a few large boats getting the advantage from plundering the spawning fish.

I would be happy to show anyone how their can get more money for the fish they catch. We could all live and work on the ocean ,and live well, without overusing the stocks of fish. I have proved this by living for years making my yearly income off what one drag boat brings in one tow.

This is the way the future must go for the sustainable fisheries to be realized. Please do not throw out the good as you moderate the bad. My business is fragile and needs nurturing to grow to the showcase of the future it could be. I need your help to realize the dream I have had of a fishery that can please the public with high quality product and a resource friendly harvest.

I would like to thank anyone who took the time to read this message. I would like to remind the counsel members to think of me ,the person, who is affected by their decisions. We are all thinking of you.

Sincerely,

Kenyon Hensel

Kenyon Hensel

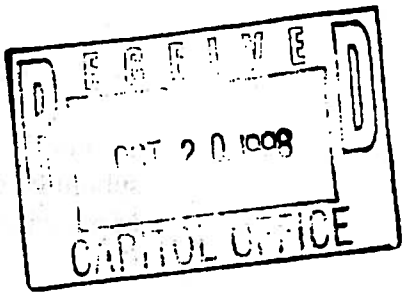
Comments of

For the Sake of Salmon
submitted by Charles Peterson,
Mendocino County Supervisor

CHARLES PETERSON
Supervisor
FIFTH DISTRICT

Telephone:
Office: (707) 463-4221
Office FAX: (707) 463-4245
Home Inland: (707) 463-6646
Home Coast: (707) 882-2646

COUNTY OF MENDOCINO
BOARD OF SUPERVISORS
501 LOW GAP ROAD, ROOM 1090
UKIAH, CALIFORNIA 95482



October 12, 1998

Assemblywoman Virginia Strom-Martin
California State Assembly
Capitol Building #4098
Sacramento, CA 95814

Dear Assemblywoman Strom-Martin:

Many of you are vigorously engaged in efforts to generate a coordinated and credible proposal from the Pacific coast region to the federal government for a federal financial contribution to salmon recovery efforts. As you participate in these deliberations, which are occurring in many different forums, I ask that you consider the recommendations contained in the attached document.

These recommendations describe principles and mechanisms for allocating federal funds to ensure that the money is used effectively to benefit salmon. The recommendations were developed by For the Sake of the Salmon's Executive Committee, a diverse and respected group of individuals representing a wide array of regional stakeholders interested in salmon. Background on how and why these recommendations were developed and presented to you in their current form is also included.

For the Sake of the Salmon is interested in having these recommendations disseminated as widely as possible. Please feel free to distribute this document to anyone you believe may have an interest in this issue. If you agree with the principles outlined in the attached material, please be sure to let others know.

Sincerely,

Charles Peterson

Charles Peterson, Supervisor
Mendocino County Board of Supervisors

CP/sjg

Federal Funding and Pacific Salmon Habitat Restoration and Protection: A Recommendation to the Region

Overview

A rapid increase in the number of listings of salmon as threatened or endangered under the federal Endangered Species Act has created a crisis atmosphere for the many affected stakeholders in the region. These include states charged with developing recovery plans and implementing regulatory regimes, and local governments responsible for local infrastructure and permitting development. They are now looking to the federal government for a large and stable commitment of funding to complement the sizable investments in salmon recovery already being made by the regional stakeholders. These stakeholders are presently meeting in a number of different forums, each trying to develop its own coordinated request from the region.

For the past two years an organization with representation by a wide array of stakeholders in the region, For the Sake of the Salmon (FSOS; see below) has been formulating a proposal for a fund to channel federal and private money to support Pacific salmon habitat protection and restoration. While FSOS has developed an approach that it believes is both scientifically sound and practical, it is clear that in the present climate many stakeholders are not prepared to embrace FSOS' proposal as their own because it describes FSOS playing a direct role in negotiating a structure and institutional home for a specific fund.

Because FSOS' highest concern is ensuring that federal funds for salmon habitat protection and restoration are put to their best and highest use for recovering salmon, it has decided to abandon any direct role for FSOS in designing a specific fund. Instead, FSOS is putting its efforts towards advocating a set of recommendations for structuring a federal contribution to support salmon habitat protection and recovery. By widely disseminating these recommendations to the stakeholders in the region, as well as to Congress and the Clinton Administration, FSOS hopes to have the principles described below find their way into the coordinated position we hope will emerge from the many forums where regional stakeholders are conferring on federal funding for Pacific salmon recovery.

Recommended Funding Principles

Incorporate into a coordinated funding request a proposal to use federal salmon habitat-related funds consistent with the following set of principles:

- Consistency with the watershed approach. Funds will only support efforts that are consistent with a watershed approach and not for piecemeal habitat projects. The definition of a watershed approach includes efforts that occur at the watershed level in which all the following activities are underway or scheduled:
  - → scientifically-sound watershed-wide assessment,
  - → watershed plan development and project prioritization based on a scientific assessment,
  - → implementation of projects consistent with a scientifically sound watershed plan,
  - → monitoring, evaluation and plan refinement, and
  - → community organization, coordination, outreach or education that directly supports one or more of the preceding four activities.

- Efforts must benefit salmon. Funding will go only to proposals undertaken in watersheds where anadromous salmonids are present.
- Protection and restoration. Funds will go both to protect remaining healthy salmon habitat and to restore degraded habitat.
- Matching funds. Funds will go only to proposals with a minimum 50% matching contribution (either cash or in-kind) from the local community, state, or other non-federal source. Higher match should not result in a higher ranking, to ensure that funds do not go only to well-established efforts at the expense of newer, less well-funded initiatives.
- Demonstrated broad-based support. Higher priority will go to proposals that reflect support by a broad representation of interests in the watershed (e.g., landowner, environmental, timber, fishing, agriculture, tribal, local government, etc.).

RECOMMENDATIONS FOR ADMINISTERING FUNDS

The following recommendations for administering funds have, similar to the funding principles described above, undergone thorough review by a number of prominent stakeholders in the region.

- Consider the National Fish and Wildlife Foundation as administrator. FSOS has had extensive discussions with the National Fish and Wildlife Foundation (NFWF) about NFWF possibly administering a pool of federal funding for Pacific coast salmon recovery. NFWF has the infrastructure, experience in grant administration, and confidence of Congress to be an attractive option. FSOS conducted an informal survey of organizations in the region that have received NFWF grants in the past and was reassured that recipients in the region would be comfortable with NFWF as an administrator. NFWF executive staff has communicated to FSOS that they believe the principles described above are compatible with NFWF criteria.
- Allocate grants between all categories of activities. Allocate funding for each of five categories of activities as shown:
  - → 10% for watershed assessment,
  - → 10% for watershed plan development and project prioritization,
  - → 40% for project implementation,
  - → 10% for monitoring, evaluation and plan refinement, and
  - → 10% for community organization, coordination, outreach or education that directly supports one or more of the preceding four activities.
  - → 20% remaining to be allocated proportionate to the needs expressed by the region, as demonstrated by the relative numbers of applications received in each category.
- Limit indirect cost rates. Indirect costs should be limited to 15% of proposal costs, with an exception for those entities that have a different approved rate negotiated with the US Treasury Inspector General's office (i.e., tribes).
- Provide separate application processes for those with state matching funds versus "other" matching funds. While most applicants for federal funds are likely to receive state matching funds, there may be entities with independent matching funds from tribal, local or private

sources that would not want to be obliged to go through a state process. This is particularly the case for tribes.

BACKGROUND ON THE DEVELOPMENT OF THESE RECOMMENDATIONS

Two years ago a regional salmon stakeholder organization, For the Sake of the Salmon, began developing the concepts and principles for a fund to provide a stable source of funding to scientifically-sound, whole-watershed protection and restoration activities that benefit salmon, and that are supported at the community level by a significant portion of the interests in the watershed. FSOS contracted the services of Cedar River Associates, a respected Seattle consulting firm, to research funding strategies and help develop the concept. FSOS convened a multi-stakeholder task force to perform a technical and policy review of the concept in its early phases. The FSOS Executive Committee, composed of members representing federal, state, local, and tribal governments, industry (utilities and timber), environmental interests, agriculture, and sport and commercial fishing, has engaged in a continuing process to reach consensus on the array of policy and operational issues needing resolution prior to establishing a fund to support region-wide salmon habitat protection and recovery. Attached is a list of past and present members of the FSOS Executive Committee who were directly involved in developing the concept and policies of the Fund

BACKGROUND ON FOR THE SAKE OF THE SALMON

FSOS is a regional organization whose mission is "to restore salmon to levels which ensure healthy, sustainable natural populations and support productive fisheries." FSOS has among its highest priorities supporting the work of local watershed organizations and providing a forum for its members to find common ground on ways to protect and restore Pacific salmon. FSOS's members include the states of Washington, Oregon and California, federal agencies, Indian tribes, local governments, the sport and commercial fishing industries, agricultural producers, utilities, the forest products industry, and environmental groups. Attached is a list of FSOS member organizations.

FOR THE SAKE  OF THE SALMON

Current and Past FSOS Executive Committee Members Involved In Crafting the Pacific Salmon Watershed Fund Concept

The States

- John Amodio, Assistant Secretary, The Resources Agency of California
- Bob Nichols, Washington Governor's Office
- Louise Solliday, Oregon Governor's Natural Resource Office

(Past members: Jim Martin, formerly with the Oregon Governor's Natural Resource Office, and Lent Oman and Dirk Brazil, both formerly with the Washington Department of Fish and Wildlife)

The Tribes

- Terry Williams, Tulalip Tribe
- Randy Harder, Point No Point Treaty Council
  - Jim Anderson, Northwest Indian Fisheries Commission (alternate)

(Past members: Billy Frank, Northwest Indian Fisheries Commission and Larry Rutter, formerly of Northwest Indian Fisheries Commission)

Local Governments

- Charles Peterson, Supervisor, Mendocino County, California
  - Gordon Reed, Commissioner, Asotin County, WA Assoc. of Counties (alternate)
  - Dan Harpole, Commissioner, Jefferson County, WA Assoc. of Counties (alternate)

Environmental Organizations

- Jeff Curtis, Western Regional Conservation Director, Trout Unlimited
  - Jud Ellinwood, Salmonid Restoration Federation (alternate)
  - Barbara Cairns, Long Live The Kings (alternate)

(Past members: Rick Applegate, formerly of Trout Unlimited; Marie Mentor, Pacific Rivers Council)

Industry

- Lynn Best, Seattle City Light
  - Laurie Power, Eugene Water & Electric Board (alternate)
  - Kelly Conover, Oregon Forest Industry Council/Washington Forest Protection Assoc./California Forestry Assoc. (alternate)

(Past alternate: Terry Flores, PacifiCorp)

Fishing Industry

- Liz Hamilton, Executive Director, NorthwestSportfishing Industry Association

(Past alternate: Nat Bingham, Pacific Coast Federation of Fisherman's Associations)

Federal

- William Stelle, Regional Administrator, National Marine Fisheries Service
  - Rick Applegate, National Marine Fisheries Service (alternate)

(Past alternate: Larry Rutter, National Marine Fisheries Service)

Agriculture

- Ronda Lucas, Associate Director National Affairs & Development, California Farm Bureau Federation

FOR THE SAKE  OF THE SALMON

MEMBERS

FEDERAL
Bureau Of Indian Affairs
Bureau Of Land Management
Environmental Protection Agency
National Marine Fisheries Service
Natural Resource Conservation Service - Western Region
U.S. Fish & Wildlife Service
U.S. Forest Service

STATE
Governor Gary Locke - Washington
Governor John Kitzhaber - Oregon
Governor Pete Wilson - California

TRIBAL
Jamestown S'Klallam Tribe
Lower Elwah Klallam Tribe
Makah Tribe
Nisqually Tribe
Nooksack Tribe
Northwest Indian Fisheries Commission
Quilcte Indian Tribe
Sauk-Suiattle Tribe
Skokomish Tribe
Swinomish Tribe
Tulalip Tribe
Upper Skagit Tribe

LOCAL GOVERNMENT
Del Norte County - California
Mendocino County - California
Marin County - California
Santa Cruz County - California
San Mateo County - California
Sonoma County - California
Trinity County - California
Association Of Oregon Counties
City Of Portland
Coos County - Oregon
King County - Washington
Washington State Association Of Counties

INDUSTRY (e.g., timber, utilities)
California Forestry Association
Eugene Water & Electric Board
Grant Public Utility District
Oregon Forest Industry Council
Pacificorp
Portland General Electric
Public Power Council
Seattle City Light
Washington Asc. Of Conservation Districts
Washington Forest Protection Association
Washington Water Power

FISHING INDUSTRY
NW Sportfishing Industry Association
NW Steelheaders
Oregon Charterboat Association
Oregon Outdoors (Guides & Packers)
Pacific Coast Federation Of Fishermen's Assoc's
Salmon For All
United Anglers Of California
Westport Charter Association

ENVIRONMENTAL
California Trout
Friends Of The River
Long Live The Kings
Oregon Trout
Oregon Wildlife Heritage Foundation
Pacific Rivers Council
Rivers Council Of Washington
Salmonid Restoration Federation
Trout Unlimited

AGRICULTURE
California Farm Bureau Federation
Washington State Farm Bureau

Comments of

Paula Yoon
Fisherwoman/Fisheries Consultant

TO: **Assemblywoman Virgina Strom-Martin, Chair**
California Legislature Select Committee on Rural Economic Development

FM: Paula Fitzgerald Yoon, Consultant, *Fisheries Focus*; Owner F/V SONJA
1686 Old Arcata Road, Bayside, CA 95524
707-822-3577

DT: 10/16/98

RE: **Input on 10/2/98 Hearing on Economic Decline of the North Coast Fishing Industry**

Thank you for being realistic about the decline we are are experiencing. If you look at the overall trend, you find a general decline over the last 20 years, since the inception of national regional fisheries management created by the Magnusen Fisheries Conservation Act. The mismanagement of that Act, fueled primarily by political pressure, has basically led us to the fisheries stock depletion we now face.

The Salmon industry was the first to face the crisis, and as you know, the crisis has not ended, as endangered species listings of salmon continue to line up - even though the salmon industry of the Pacific Northwest has been curtailed by 93 % of ocean salmon fishing opportunity. We were the easiest to manage via elimination, even though we clearly did not impact the stocks as negatively as the cumulative negative impacts imposed on the stocks' habitat by other "user groups". In other words, our industry has been nearly eliminated and the stocks are still declining overall.

The good news is that there is a lot of support in the Pacific Northwest for the prioritization of displaced fishermen and women into habitat restoration jobs. That was proven with the Northwest Emergency Assistance Program, a very successful program (I was one of the coordinators for the NCA restoration element of NEAP). Oregon and Washington have moved forward with support for their displaced fishermen and women, while California has lagged far behind (the bad news), primarily due to the fact that the people surrounding our Governor refuse to let reality touch him. That reality is that there are thousands of displaced fishermen and women falling through the cracks of an economic system that refuses to recognize the negative socioeconomic impacts created by prioritized support of corporate economics over the viability of small family businesses.

Despite the lack of support at the State level, there is a lot of understanding and support at the grass roots level, as well as within the agencies that are responsible for management of the salmon resource. Most of them acknowledge that the decline of the salmon industry juxtaposes a line which shows economic increase in other industries that impact salmon habitat (timber, building industry, corporate agriculture). Because of this recognition, there is great potential support for restoration funds created by public dollars to prioritize the training and hiring of our displaced fishermen and women.

There is the need for CA to work with OR and WA to call attention to the continued demise and corresponding need at the **Federal level**. This can be accomplished via prioritization of the issue of displaced fishermen and women:

1. Within the U.S. Department of Labor, where a Program can be developed to specifically meet training and employment needs. It's very important to develop a

Program that will not require fishermen and women to "hit bottom" before receiving aid. The energy lost via economic and mental depression will require an inordinate amount of funds to try bring these people back from poverty. We want to avert the crisis by formulating a transition Program that will allow as many of the small vessel fishermen and women to continue working in their chosen field as long as it is viable while at the same time providing alternate or professional diversification. Fisheries habitat restoration is perfect example of a viable professional diversification. It is very important to include displaced fishermen and women in the development and administration of the Program, for they know firsthand the issues and can better assist peers. We were able to accomplish this with the Northwest Emergency Assistance Program.

Program development can be placed on the priority agendas of:

Pacific States Fisheries Legislative Task Force
Pacific States Marine Fisheries Commission

2. Within the **Pacific Fisheries Management Council**, there is a need to support larger groundfish allocations for small fishing vessels. The smaller vessel hook and line fisheries have a decreased negative impact on the stocks (doesn't deplete the juvenile populations) and the offshore environment - compared to the trawling vessels, which are **likely** "clear cutting" the near and offshore shelf ecosystem.

3. Virtually all of the fishing industries of coastal USA are experiencing the same decline. There is excellent potential to **work cooperatively with our national coastal fisheries** to forward the changes necessary to reverse stock depletion. This decline is also occurring worldwide.

4. The three states of CA, OR and WA can work together to require that all federal dollars for watershed restoration be prioritized to hire displaced salmon fishermen and women who have received these skills. It's very important for our society to make the connection between the loss of the salmon industry and the interim need to employ these same folks to restore the resource they (we) were once dependent on. We were managed out business while the industries that were truly impacting the resource have gone on and even increased with little or no pain. **Remember Nat Bingham's call to "share the pain".**

5. In 1997 and 1998 combined, $12 million plus were allocated to flood cleanup in CA. It is clear that it would be much more logical to utilize disaster funds to **prevent disasters**. Much of the funds are for repairing damage caused by landslides and road failure - the same major limiting factors for salmon survival. It is imperative to convince Congress that these funds be continued and made availabe for **preventative measures.** This is an additional area to prioritize the hiring of displaced fishermen and women.

6. **Year of the Ocean** - On June, 1998, President Clinton announced $224 million to protect the integrity of the ocean. These funds could also prioritize the hiring of fishermen and women in bay and estuary restoration and for data collection as well.

At the **State level**, the same hiring prioritization should occur for State restoration dollars as well.

1. The **Economic Development forum** is an excellent forum to substantiate restoration of our industry. It provides the opportunity to be realistic about having reached the limits of societal economic parameters. It is clear that economic development as has been practiced in the past has increased our GNP while depleting or degrading our natural resource base. Economic development must now be created in such a way that present generations restore resources for future generations. It's really as simple as that if we are to leave an honorable legacy.

2. The **CAL FED Program**, created by the Miller Bill, the Central Valley Project Improvement Act which we in the salmon industry worked diligently for passage of, will have approximately $1.5 billion available for habitat restoration in the central valley. This is clearly an **avenue for prioritized employment of displaced fishermen and women**. Right now is the time to get this potential in place as negotiations for utilization of the funds are taking place.

3. The Private Industry Councils and Employment Development Departments of each fisheries disaster county **could be** working closely with members of the industry to assist in the development of the best and most realistic programs to meet the needs of the industry.

At the **local levels** there is a need for **public forums for the industry to develop and prioritize their ideas for dealing with the ongoing issue of displacement**. In the three northern coastal counties, where salmon disaster is a reality, there is little debate on the need for professional diversification, for it will take decades to restore the salmon populations given the nature of the stocks and the habitat they are dependent upon. The groundfish populations have the ability to rebound more readily than salmon, given good conditions. Dealing with the groundfish disaster is now at hand as small boat fishermen that were squeezed out of the salmon fishery are now experiencing their groundfish allocations being squeezed by the trawling industry.

I would like to be of assistance in the development of the items listed above. There is great potential at this time to make the changes neccessary to create equitable benefits for the larger good.

Thank you very much for your attention to these matters.

Sincerely, Paula

Comments of

Mr. Oles Weaver
Crescent City Fisherman

OCT 23 1998

To Virginia Strom-Martin

Dear Madam.

This is the letter you asked me to write concerning the fishing along the California coast. I hope this will help you.

To help save many of our fish, I have found that most of the fish spawn in deep water during the Winter season.

Fish such as sablefish, Blacks, blues, Canniers, coppers, Browns and others depend on shrimp and some kind of cover for their young. I believe that the Roller net droggers have taken this cover away. a Study would help to see if this is true and what kind of damage is being done to the sea bottom and the spawning and feeding area.

An artificial reef in 300 ft of water along the calfornia coast may be the answer to feed and protect the fish. If possible old cars or tires or any thing could be put down in the sea. Perhaps even use the fish by products

left over can be dumped out there to help feed the fish, shrimp, squid, crabs etc. This also would provide a much healthier fish population along the whole coast. This reef would give the fish a place to hide and spawn.

The fish we are talking about Mature in 3 to 4 yrs. The Lingcod also in 3 to 4 yrs. But the Lingcod spawn between november and March but go to shallow water. Which at these times the sea is to rough for the small boats to go out and fish so the Lingcod are able to be safe at this time.

If there is nothing for the Lings to eat then they will eat their own. I have pulled up lingcod by fishing Pole many times with another Lingcod hanging on to the one that was on the hook.

So these fish need a place to hide and feed off shrimp and other stuff while they are small.

Hook and line fishing is still the cleanest fishing there is. The fish arn't crushed and Ice downed for days at a time.

The fish are brought in daily and we kill nothing except what we bring to the fisherys. We can only catch fish that are hungry and will bite our hooks. yet we are given an alotment of fish we can catch.

It is well known that fish are found around sunken ships or any kind of cover in the sea. so it seems reasonable that an artificial reef would be of great help. I hope you will put your studies along these lines and let me know how they come out.

I wont to thank you for being interested in our problem

Sincerely Yours.
Mr Olis Lee Weaver

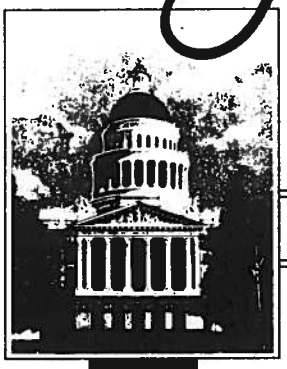
2025 Evergreen
Crescent city Calif
95531

APPENDIX 2

World Fisheries Day Resolution

CALIFORNIA LEGISLATURE

Assembly



RESOLUTION

By the Honorable Virginia R. Strom-Martin, 1st Assembly District; the Honorable Fred Keeley, 27th Assembly District; the Honorable Ted Lempert, 21st Assembly District; the Honorable Dede Alpert, 39th Senatorial District; the Honorable Bruce McPherson, 15th Senatorial District; and the Honorable Mike Thompson, 2nd Senatorial District; Relative to

WORLD FISHERIES DAY

WHEREAS, Fishing is one of humankind's oldest professions and America's oldest industry; and

WHEREAS, Since the time of the Pilgrims, fishing has been important to this nation's development, and fishing has played a large role in the history of California--from the reliance of Native peoples on salmon along the central and north coast, to the dependence of the early gold miners on salmon for food, and to the growth of coastal communities around such fisheries as tuna and sardine; and

WHEREAS, Fishing contributes to California's economy and culture through jobs, food production, exports, recreation, and tourism; and

WHEREAS, Many of the world's fisheries are now threatened by overfishing, particularly by large factory ships, as well as coastal pollution and certain types of aquaculture that could destroy fish resources and the communities and industries that rely on those fisheries; and

WHEREAS, Fishing men and women from throughout the globe have banded together in the World Forum of Fish-Harvesters & Fishworkers and are calling on their nations and the public to support them in their efforts to prevent overfishing, destructive fishing practices, and pollution, and to work for sustainable fishing; and

WHEREAS, The members of the World Forum of Fish-Harvesters & Fishworkers have called on their national, provincial, and state governments to commemorate November 21, 1998, as World Fisheries Day in recognition of the historic, cultural, and economic importance of the fisheries; and

WHEREAS, Fishing men and women in the United States and their organizations will be celebrating World Fisheries Day by, among other things, contributing fish to food banks to help the less fortunate during the nation's celebration of Thanksgiving; now, therefore, be it

RESOLVED BY ASSEMBLY MEMBERS VIRGINIA R. STROM-MARTIN, FRED KEELEY, AND TED LEMPERT AND SENATORS DEDE ALPERT, BRUCE MCPHERSON, AND MIKE THOMPSON, That they recognize November 21, 1998, in this Year of the Ocean, as the first annual World Fisheries Day, and encourage the people of California to reflect upon the historic, cultural, and economic importance of fisheries and to take an active role in efforts to insure their survival.

Members Resolution No. 2606

Dated this 17th day of November, 1998

Virginia Strom-Martin
Honorable Virginia R. Strom-Martin
1st Assembly District

Honorable Fred Keeley
27th Assembly District

Ted Lempert
Honorable Ted Lempert
21st Assembly District

Dede Alpert
Honorable Dede Alpert
39th Senatorial District

Bruce McPherson
Honorable Bruce McPherson
15th Senatorial District

Mike Thompson
Honorable Mike Thompson
2nd Senatorial District

From: Janet Eidsness
Sent: Friday, March 12, 2010 11:54 AM
To: MLPAComments
Cc: Janet Eidsness; Claudia Brundin
Subject: Tribal Comments to BRTF and SAT, North Coast Study Region

Dear Respected Members of the North Coast MLPA Blue Ribbon Task Force and Science Advisory Team:

The Blue Lake Rancheria Tribal Council respectfully requests that you consider their demands codified in the attached Resolution #10-01.

Sincerely,

Janet P. Eidsness
Tribal Heritage Preservation Officer (THPO) Blue Lake Rancheria

For Chairperson Claudia Brundin and the Blue Lake Rancheria Sovereign Nation

JANET P. EIDSNESS, M.A., Registered Professional Archaeologist Consultant in Heritage Resources Management Co-Chair, Native American Programs Committee, Society for CA Archaeology Member, Archaeological Resources Committee, State Historical Resources Comm.
THPO for Blue Lake Rancheria

MAIN OFFICE/RESIDENCE:
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Resolution
of
The Blue Lake Rancheria of California
#10-01

SUBJECT: RESOLUTION TO PROTECT AND PRESERVE ABORIGINAL RIGHTS WITH REFERENCE TO THE MARINE LIFE PROTECTION ACT (MLPA)

WHEREAS: The Blue Lake Rancheria is a federally recognized Indian Tribe as listed in the Federal Register, Vol. 65, No. 49, p. 13299, as "Blue Lake Rancheria, California."

WHEREAS: The Rancheria Constitution has been approved by the Assistant Secretary of the Indian Affairs on March 22, 1989 and revised and approved by the Assistant Secretary of Indian Affairs on February 11, 1994, authorizing full governmental powers to the duly elected Business Council; and

WHEREAS: The Blue Lake Rancheria is located within its aboriginal Wiyot homelands and has continued to use and occupy these ancestral lands, which are now part of Humboldt County, California; and

WHEREAS: The Blue Lake Rancheria strives to promote and perpetuate the protection of natural and cultural resources, including Wiyot historical, cultural, archaeological and sacred sites, for future generations and thus strongly supports conservation and protection of such resources; and

WHEREAS: The Indians of California, both coastal and inland, have relied on and used coastal and marine resources since time immemorial for subsistence, trade, ceremonial, religious and medicinal purposes and sacred uses, and the protection of these traditionally tended natural resources, plus the right to continue and pass on to successive generations the traditional Indian gathering/harvesting practices culturally associated with marine and coastal resources, are fundamental human rights that are important to all California Indians; and

WHEREAS: Because California Indians have long relied upon and tended coastal and marine resources, there are abundant recorded and undocumented historic and prehistoric

cultural resource sites within the coastal zones that tribes have interests in protecting; and

WHEREAS: Many tribes in California have maintained prescriptive rights to fish, harvest seaweed and shell fish, and practice their religion along the coast at their usual and customary places within their traditional and historic territories, as they have done since time immemorial; and

WHEREAS: Many California tribes rely on their ability to fish and harvest seaweed and shell fish, which are their traditional foods, and to use the shells for religious regalia and sacraments, for the physical and mental health and welfare of their citizens; and

WHEREAS: The State of California (State) has enacted the Marine Life Protection Act (MLPA) for the purpose of increasing coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems and marine natural heritage, as well as to improve recreational, educational and study opportunities provided by marine ecosystems subject to minimal human disturbance through the creation of Marine Protection Areas (MPA); and

WHEREAS: The State is in the process of designating MPA by regions for the entire California coastal zone that will restrict and prohibit on-going traditional Indian land use and tending practices for the MLPA stated purposes of promoting the conservation and recovery of marine plant and animal communities, but to-date the State has not conducted government-to-government consultation with any California tribes to discuss and assess the potential negative impacts of such restricted uses on California tribes' traditional subsistence fishing or gathering/harvesting and religious rights, nor pursuant to the California Environmental Quality Act (CEQA), has the State addressed the direct or indirect, near and long-term significant impacts to coastal California Indian cultural resources including traditional cultural places that are eligible for or are listed on the California Register of Historical Resources and/or the National Register of Historic Places; and

WHEREAS: To-date, the MLPA Regional Science Advisory Teams have not adequately characterized and considered current marine resource conditions by taking into account the knowledge and history of how traditional California Indian land uses and practices over the millennia have positively affected and helped maintain healthy marine ecosystems, nor has the State adequately addressed the consequences of interrupting the age-old traditional Indian marine resource management practices on the very resources the MLPA wishes to protect and preserve; and

WHEREAS: The focus of MLPA Regional Task Forces is to address the recreational, educational and commercial opportunities of these coastal waters, however, such uses are typically the antithesis of tribal uses, and therefore tribal rights and interests have not been adequately or fairly considered in the process; and

WHEREAS: California tribes, as the original stewards of this land, retain original usufructary rights to protect the land and rocks, air, water, native plants and animals, that occupy their ancestral homelands; and

WHEREAS: The failure of the State to conduct government-to-government consultation with tribes violates the spirit and intent of the Federal and State consultation policies (see Executive Memorandum of April 29, 1994 on Government-to-Government Relations with Native American Tribal Governments; Executive Order of November 6, 2000 on Consultation and Coordination with Indian Tribal Governments; Presidential Memorandum of November 5, 2009 on Tribal Consultation; California Government Code Sections 11019.8 and 65040.12(c); California Public Resources Code Section 5097.97), which are designed to assure adequate tribal input and fair consideration in making decisions that may affect tribes and their sovereign rights; and

WHEREAS: The failure of the State to consider tribal rights and religious practices when designating restricted MPA violates the Religious Freedom Restoration Act and the American Indian Religious Freedom Act, because such designations impede the ability of tribes to practice their traditional religions through use of the coastal areas for ceremonies and harvesting and gathering of ceremonial sustenance and objects.

NOW THEREFORE BE IT RESOLVED THAT THE BLUE LAKE RANCHERIA hereby demands that the State immediately engage in government-to-government consultations with California tribes concerning the negative impacts to tribal rights and interests by the MLPA and designation of MPA; and

NOW THEREFORE BE IT RESOLVED THAT THE BLUE LAKE RANCHERIA hereby demands that the State assure the protection and continued practices of California tribes in the use of the coastal and marine resources for subsistence, ceremonial and cultural uses when implementing the MLPA through the designation of MPA; and

NOW THEREFORE BE IT RESOLVED THAT THE BLUE LAKE RANCHERIA hereby demands an immediate exclusion for California tribes under the MLPA Initiative that will allow unobstructed access to fish and gather traditional subsistence and ceremonial resources along the California coast; and

NOW THEREFORE BE IT RESOLVED THAT THE BLUE LAKE RANCHERIA hereby demands that the State consider for all MLPA Regions (including those which have "concluded" the MPA and CEQA review processes), the science and history of traditional Indian marine resource uses over the millennia, how these have affected current conditions, and if restricting or prohibiting these time proven Indian practices will have negative affects on marine ecosystems and resources.

CERTIFICATION

As the Chairperson of the Blue Lake Rancheria Business Council for the Blue Lake Rancheria Tribe of California, I hereby certify that the Blue Lake Rancheria Business Council adopted this resolution by a vote of 5 for, with 0 against, with 0 abstaining, with 0 absent on this 2 day of March 2010.

Claudia Brundin

Claudia Brundin, Chairperson

Date of Approval

3-2-2010

ATTEST:

Bonnie L. Mobbs

Bonnie L. Mobbs, Executive Tribal Secretary

Date of Approval

3-2-2010

From: eric knaggs
Sent: Friday, March 12, 2010 1:02 PM
To: MLPAComments
Subject: Draft Regional Profile of the North Coast Study Region February 26, 2010 version

The "Draft Regional Profile of the North Coast Study Region" February 26, 2010 version is a great improvement over the original version. It incorporated many of my editorial suggestions and I appreciate this fact. However, the editor states that comments are not needed on this new version. I believe you do need comments since you added so much new material to this document and this information needs to be read and have comments also. I found several errors in this new information and some of this information is really questionable.

The one thing that does need to be fixed is the different font point size that is used between joining sections. This different font point size makes this February 26, 2010 document very disconcerting to read and needs to be fixed for consistency.

Sincerely,

Eric Knaggs

From: John Keane
Sent: Friday, March 12, 2010 8:22 AM
To: MLPAComments
Cc: JJK_MLPA@att.net
Subject: Comments to SAT for North Coast MLPA

Dear MLPA folks - attached is a letter containing some concerns and questions relevant to the North Coast MLPA SAT team and the evaluation methods that are being used to compare alternative MPA arrays. Can you please direct the comments to the SAT team. Thank you.
Sincerely,
John Keane

11 March 2010

TO: Dr Erik Bjorkstedt: Co-chair, MLPA Master Plan Science Advisory Team,

FROM: Dr. John Keane

RE: Concerns regarding use of Bioeconomic models for ranking North Coast MPA arrays

Dear Dr. Bjorkstedt and SAT Members,

I am writing to express concerns and questions regarding the use of models, specifically the Bioeconomic Model (BEM) and Genetic Connectivity Model (GCM), for comparing and ranking alternative MPA arrays as part of the evaluation process for implementation of the Marine Life Protection Act in the North Coast (NC).

I have been closely following the MLPA implementation process, and related discussion and development of the SAT tools and models that have been used across the three Regional efforts to date. In particular I am very familiar with the full details and process for the North Central Coast Region. I am now a member of the NorCal Kayak Anglers team involved with the implementation of the North Coast MLPA and I support David Wright, our RSG representative for the NC. In a broader sense I am familiar with the use of deterministic and stochastic models in the conservation and conservation planning arenas for addressing population viability and ecosystem-scale projections in terrestrial environments. I have a Phd in Conservation Ecology from the University of California, Davis, and have been a research scientist with a federal agency for the past 10 years working on these types of issues. Thus, my concerns regarding the current proposed use of models for evaluating and ranking the NC alternative arrays stems from both my perspective as a member of a citizen user-group interested in the implementation of the MLPA, as well as a scientist interested in the use of science to address real-world conservation issues.

My concerns are not directed at the models per se, each of these models is high quality and provides valuable insights into fundamental questions regarding MPAs versus other management strategies, the importance of fishing pressure outside MPAs, and other basic questions. I am also a strong advocate of using models to frame questions, explore different scenarios, conduct sensitivity analyses and potentially identify priority monitoring information needs. However, I do have serious specific concerns regarding the specific application of the current BEM and GCM models to the real-world applied question of comparing alternative MPA arrays.

The current BEM and GCM models are deterministic spatially-explicit population models that integrate multiple input parameters, with high uncertainty regarding the actual values for these input parameters, to generate a single value for each output parameter that is purported to represent the future stable-state out at 30-50 years for that scenario. These models are valuable for theoretical insight into model/system behavior across a range of different input values. However, while these deterministic models are appropriate for exploring how changes in the

input value of one parameter affects the single value output and conducting sensitivity analyses in a theoretical environment, in my opinion this is not the appropriate approach or modeling tool for addressing the question of comparing MPA arrays in a real-world conservation environment where predictions have potentially widespread ramifications. The current deterministic models do not address the real issue and question. Critically, there are no confidence intervals around the estimates. Expressing the uncertainty around estimates is a fundamental tenet of science, especially critical in real-world applications where there are a multitude of impacts that could result from a specific conservation decision.

In my opinion the question of interest is: What is the possible range of future outputs or future trajectories for each of the specific MPA arrays and management scenarios, given uncertainty in each input parameter value?

We know there is no single deterministic outcome. Rather, there is a range of possible future outputs or future trajectories given the stochastic behavior of natural systems and natural variation in parameter values. We want to estimate the range of possible future outcomes or future trajectories. Addressing the above question regarding the "range of possible outcomes" is more appropriately addressed via simulation modeling using a stochastic model that fully incorporates the uncertainty in all input parameters and produces an output with a mean value and confidence intervals around the mean so that all parties can assess the uncertainty around the predictions. Then, and only then, can meaningful and defensible comparisons can be made across alternative MPA arrays.

It would seem like a rather straightforward task to extend the current deterministic models into stochastic simulation models. One option could be to add a module up front that randomly selects an input value from a pre-determined distribution of values for each model run. Simulations could then be run for 1000-10000 iterations, ultimately using a number of iterations that results in stable projections for output mean values and confidence intervals. This would incorporate the uncertainty in the input parameters and honestly incorporate how that uncertainty propagates through the models and affects the final mean value and confidence intervals.

The uncertainty and distribution used to describe the shape of the distribution could be based on values from the literature if available. When data is not available then best scientific opinion can be used to select a distribution (e.g., normal) around the mean value and the SAT could explore how the degree of uncertainty effects the model projections. For example, if the uncertainty is unknown then the SAT could model using the mean $\pm$ 2%, mean $\pm$ 5%, mean $\pm$ 10%, etc.

Further, there is claim that the current single value projections represent the future stable-state condition. This is a very dubious claim to have much faith in given that ecosystems exhibit natural variation and it is highly questionable that some single future, deterministic projection based on complex, data-hungry, spatially-explicit population/genetic models has any relevance to a stable state that may not exist other than in a theoretical context. If the SAT is interested in

projections out to 50 years in the future then the stochastic approach presented above can be extended into a simulation time-series model that randomly selects values from the same distributions as above to produce annual estimates and confidence intervals each year out to year 50. This would produce annual estimates with confidence intervals and a final estimate for year 50 with confidence intervals, based on a large enough number of simulations to determine when means and confidence intervals stabilized.

Based on the above discussion points, I do not think that current deterministic form of the BEM and GCM models are the appropriate modeling tools or approach for comparing alternative MPA arrays. Often, application of these types of deterministic models to address complex, stochastic conservation applications are defended by the claim that they are only being used to make "relative" comparisons among alternatives. Nevertheless, conservation decisions are then rendered based on "absolute" differences among the single value output projections across alternatives from these exercises. Further, the use of deterministic models is also condoned under the banner of "best available science". Neither of these justifications is defensible. They are the not the best available science if they are not addressing the right question regarding conservation decisions. Relative single output values only have value for making comparisons in a theoretical context. Over-simplistic, single output values are not defensible for making relative comparisons using complex models in complex, stochastic systems with high degrees of natural variation and uncertainty.

As expressed above, I have concerns regarding the proposed use of the current models. I do not think this is justifiable and have further concerns how the results from these modeling efforts are being incorrectly interpreted and used by the public in deliberations regarding comparisons of alternative MPA arrays. At one of the North Central Coast SAT meetings in San Rafael, CA a few years ago, members of the public were stating that the modeling indicated that "their" proposal was superior because it had higher output values for some parameters based on the modeling. Looking at the actual output values, there were barely any absolute differences in the single value output estimates, and if appropriate confidence intervals around the estimates had been provided then there would have been no significant differences across alternatives. This lack of confidence intervals around the parameters is scientifically unjustifiable and misleading to the public, at best.

The concerns we raise are not new and have been addressed in many examples of conservation modeling and conservation planning. For example, an analogous case occurs in the field of Population Viability Analysis (PVA) where early efforts commonly used simple, deterministic Leslie age-structured or Leftovitch stage-structured matrix models to estimate lambda for focal populations of conservation interest. These models proved useful for providing insight into population dynamics and conducting sensitivity and elasticity analyses. However, limitations with these deterministic models became quickly apparent when the question turned to projecting future population growth because of the deterministic structure of the models and the underlying assumptions of no variation in demographic parameters and convergence to a steady-state,

stable-age distribution and constant growth rate. Currently, PVAs incorporate variation in parameters that reflect natural variability, or process variation, in the parameters and populations of interest. A good example is seen in recent PVA projections for the well studied and highly controversial spotted owl. Even using PVA models to project a single parameter (lambda), with solid empirical estimates of the parameter and the process variation around the estimate, indicates that the confidence intervals around the future population estimates are so large at only 5-10 years into the future that it is not possible to predict if the population will increase, be stable or decline with much certainty at 5-10 years into the future. And this involves modeling future projections for a single parameter (lambda) over a short time period. The implication for the much more complex BEM and GCM models that integrate a larger number of parameters and claim to reflect steady-state conditions in 30-50 years is that the output values of interest will have very large confidence intervals if variation and uncertainty in each of the input parameters is honestly incorporated into the modeling exercise for the NC MPA evaluation process.

Given the concerns expressed above I would like to request that the SAT specifically address the following two questions:

1) I suggest that the most relevant question for informing the NC MLPA decision regards - "What is the possible range of future outputs or future trajectories for each of the specific MPA arrays and management scenarios, given uncertainty in each input parameter value?" This would require stochastic simulation models as compared to the current single value output with no confidence intervals produced for each scenario by the current deterministic BEM and AM models. Does the SAT agree or disagree with this proposition?
2) I request that the SAT consider incorporating uncertainty into the model projections for all input parameters so that interested parties can see how uncertainty propagates through the models. The resulting final output values should have appropriate confidence intervals that reflect this uncertainty. Only then can meaningful comparisons be made across alternative MPA arrays. The a priori expectation is that the confidence intervals will broadly overlap for almost all output values across alternatives. If this hypothesis proves true, then the models might not have any ability to discriminate across alternatives when uncertainty is appropriately addressed.

In summary, I thank the SAT for addressing the above concerns and questions. To reiterate, the concerns are not critical of the high quality modeling work that has been conducted or the models per se. I support the judicious and appropriate use of models for informing and guiding complex conservation decisions. Rather, the specific concerns regard the inappropriate use of deterministic models for addressing the specific question related to informing decision for evaluating and selecting MPA arrays during implementation of the NC MLPA. Again, thanks to the SAT for addressing these concerns and I look forward to further discussion of these issues.

Sincerely,

Dr. John Keane
2106 Red Brook Way
Rancho Cordova, CA 95670
email: JJK-MLPA@att.net

From: **Curtis Berkey**
Date: Mon, Mar 15, 2010 at 5:58 PM
Subject:
To: "Kelly@strategicearth.com" <Kelly@strategicearth.com>
Cc: "Ken.Wiseman@resources.ca.gov" <Ken.Wiseman@resources.ca.gov>, Evan Fox <evanwfox@gmail.com>, InterTribal Sinkyone Wilderness Council <intertribalsinkyone@sbcglobal.net>

Ms. Sayce: on behalf of the InterTribal Sinkyone Wilderness Council, attached is our statement for distribution to the members of the Science Advisory Team in advance of its meeting this week.

We appreciate your assistance in ensuring each members gets a copy of the statement.

Curtis

Curtis G. Berkey
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California Marine Life Protection Act Initiative
Master Plan Science Advisory Team

Meetings March 16-17, 2010

Statement by InterTribal Sinkyone Wilderness Council

We appreciate the opportunity to submit these comments. We have four points for your consideration.

First, we ask that you defer approval of the draft guidelines for sharing information about Tribal uses. We have not been able to obtain a copy of this document, and therefore have not had the chance to review it. The Draft Agenda notes that the meeting materials will be provided "as soon as they are available." To our knowledge, the draft guidelines have not been made available. It would be unfair for the Science Advisory Team to adopt guidelines on this important issue without considering comments from California Indian people. The issue concerns sensitive and confidential information about traditional cultural and customary uses, a matter of grave concern to Indian people.

Second, we ask the Science Advisory Team to expand the membership of the Tribal Work Group to include Indian representation. The Initiative's policy to make this process open and transparent supports Indian representation on the Team. We appreciate the establishment of a Work Group to focus on these issues, but to the best of our knowledge there is no current member who can present an Indian perspective on the science issues under consideration. There are qualified Indian people who could serve ably on this Work Group. The Marine Life Protection Act requires at least one team member to have "expertise in the economics and culture of California coastal communities." Section 2855(b)(3)(B). There is no current member with

expertise in California Indian communities, which the Act arguably requires. The Initiative should ask the Tribes in this region to appoint persons to serve on the Work Group.

Third, we ask that you coordinate the evaluation of proposed MPAs with the development of an Initiative policy on Tribal uses and rights. Because the Marine Life Protection Act neglected to address Tribal use of marine resources, the Initiative must fill this gap with a policy of its own. That process is now underway. To be useful, the Tribal use policy should be in place before the evaluation of arrays is completed. Although the development of policy is outside the scope of your work, we ask that you structure the evaluation process to be consistent with respect for and protection of Tribal uses, as expressed in the Initiative's evolving policy.

Fourth, we ask that the Science Advisory Team consider the traditional ecological knowledge of Indian communities in carrying out its work. The Marine Life Protection Act requires such consideration. Section 2855 obligates the Team to "take into account relevant information from local communities." The North Coast Tribes' traditional ecological knowledge arises from generations of resource use and practices of stewardship. Traditional Indian knowledge is holistic in outlook and adaptive by nature. It is equal to Western science in its depth, scope, complexity and validity as a basis for resource management. We ask that you recognize the right of sovereign Indian Tribes to continue to practice traditional cultural uses based on this traditional ecological knowledge.

Thank you.